



Practice Guide

Greenspace design for health and well-being

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Aileen Shackell and
Robin Walter



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Enquiries relating to this publication should be addressed to:

Forestry Commission
231 Corstorphine Road
Edinburgh
EH12 7AT

T: 0131 334 0303
E: publications@forestry.gsi.gov.uk

The authors can be contacted at:

E: aileen@asa-landscape.com
E: robin@trees-for-transition.co.uk

If you need this publication in an alternative format, for example in large print or in another language, please contact the Forestry Commission Diversity Team at the above address. Telephone: 0131 314 6575 or email: diversity@forestry.gsi.gov.uk.

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Foreword

‘Green environments are healthy environments’. This is the message repeated again and again from healthcare research that points towards a positive relationship between greenspace and general health. Outdoor environments can have important restorative qualities that promote recovery from physical and mental stresses. Studies of ‘nature deficit disorder’ or ‘nature deprivation’ suggest that experiences of the outdoors (even views of greenery ‘borrowed’ through a hospital window) can have a therapeutic effect on ones’ social, emotional and mental functioning.

Some outdoor spaces are ‘salutogenic’, that is they reduce stress and encourage healthy behaviours. Whilst the particular reasons for this are not fully understood, various factors may – in isolation or combination – be important, including outdoor activity and exercise, natural daylight, stimulation of the senses, and the aesthetic experience. What we do know is that experiencing these natural environments – or helping to care for them – can improve the mental health and well-being of individuals and help to recharge their physical, mental and social capacities.

Nowhere is this relationship with the ‘natural health service’ more important than around healthcare facilities – particularly across the NHS estate. In supporting health and well-being outcomes National Health Service facilities should strive to make greater use of existing outdoor spaces by connecting them with the built environment. As we shift towards a more mutual NHS these largely untapped outdoor spaces should be recognised and utilised as an important healthcare resource in their own right: hence this guide Greenspace design for health and well-being.

In setting out best practice – backed up by case studies – this booklet provides a valuable guide to the design of accessible outdoor healing environments. It is equally applicable to new-build sites and refurbishments. It is relevant to the full range of healthcare settings, from the smallest health centre to the largest general hospital. It is also relevant to non-NHS settings such as schools, nursing homes and indeed everywhere where the promotion of health and well-being is important.

This Practice Guide will assist directors of facilities, estate managers, capital strategic planners, policymakers: in short everyone interested in health improvement and patient care, whether dealing directly with patients or managing grounds. By adopting this design guidance, NHS teams will be able to create, transform and revitalise their outdoor estates with respect to the human experience, encouraging greater use of the outdoors by patients, visitors and staff alike. These environments will provide a positive distraction from treatment and a therapeutic alternative to hospital buildings: quiet reflective spaces free from the clinical environment where patients can convalesce and recover in peaceful surroundings.

Alongside wards, waiting-rooms, and clinical departments, well-designed outdoor spaces are important environments that provide benefits for everyone. But as well as bringing social benefits, woodland and greenspace initiatives such as the NHS Forest in England and NHS Greenspace in Scotland can also bring organisational and environmental benefits too, helping healthcare facilities to meet good corporate citizenship responsibilities and performance measures, reduce carbon footprints and enhance opportunities for green prescription and outdoor recovery programmes.

By guiding NHS decision makers, Greenspace design for health and well-being will help to harness the full salutogenic potential of the NHS estate and bring the healing power of nature back into 21st century healthcare provision.



Sir Muir Gray
Director of the National Knowledge Service and
Chief Knowledge Officer to the National Health Service



Derek Feeley
Director-General Health and Social Care
and Chief Executive NHS Scotland

Contents

Introduction	1
A holistic approach	1
Benefits of well-designed outdoor spaces	1
A guide for practitioners	1
Why is it important to take healing outdoors?	3
Understanding the benefits	3
Outdoor spaces can host a wide range of activities	3
Why is contact with nature calming?	4
Trees and wooded spaces have a particular role to play	5
Health benefits of natural settings	6
Healthcare: an art as well as a science	8
Case study 1: Argyll and Bute Psychiatric Hospital, Lochgilphead, Argyll	9
What sort of spaces should we be designing?	11
Designing healing spaces	11
Creating a healing environment with the wider setting	11
Creating a healing environment in the building surroundings	12
Creating a healing environment in garden spaces	13
Case study 2: St Catherine's, Rotherham, Doncaster, and South Humber NHS Foundation Trust, Yorkshire	14
Design principles	17
1. Value what you have got	18
2. Create spaces which feel special	20
3. Make the outside accessible	22
4. Focus on people's needs	24
5. Connect with nature	26
6. Balance risk with benefits	28
7. Design for change	30
Summary	32
Case study 3: Maggie's Cancer Caring Centre, London	33
How do we put the theory into practice?	35
Overcoming the challenges	35
Private finance initiative schemes	35
Acute care	36
Older people's care	36
Primary care	37
Case study 4: Culm Valley Integrated Centre for Health, Cullompton, Devon	37
Getting started: the project process summarised	39
Stage 1: Preparation	40
Stage 2: Design and implementation	41
Stage 3: Using and maintaining the new space	42
Stage 4: Monitoring and review	42
Case study 5: Sensory Garden, the Verwood Opportunity Centre, Dorset	43

Working with design elements	45
1. Planting	46
2. Trees	48
3. Entrances, paths and boundaries – connecting the site	50
4. Site furniture	52
5. Art	54
6. Water	56
Summary	58
Case study 6: Chalkhill Unit, Princess Royal Hospital, Haywards Heath, Sussex	58
Feeling inspired? How to get started	60
Further reading and useful sources of information	62
Appendix 1: Researched sites	66
Appendix 2: Sample risk–benefit assessment for a community hospital	68

Introduction

A holistic approach

Until relatively late in the 20th century, outdoor spaces around most hospitals were very much part of the healing environment. Gardens, terraces, orchards, meadows and even hospital farms were all commonplace and accessible to patients – particularly in the field of mental health. But, as time passed, the benefits for patients of being able to spend time outdoors in the fresh air have been increasingly overlooked, as the emphasis on creating a sterile environment indoors has developed. This has fostered a view that the healing environment was restricted to the inside of hospital buildings, excluding the gardens and other spaces around them.

This Guide focuses on the outdoor spaces around all types of healthcare facilities. It advocates a holistic approach to their design, seeing both indoor and outdoor greenspaces as equally important for health and well-being. In doing so, it re-orientates outdoor spaces firmly within the sphere of patient-centred care – with the ‘Planetree model’ stipulating that healthcare environments should ‘foster a connection to nature and beauty’. So, all outdoor spaces should be part of the healing environment.

Benefits of well-designed outdoor spaces

‘People are entitled to the best quality of care ... at the end of the day the reason why design matters so much is that we have a limited amount of resources, and best practice reduces the cost of care.’
(Professor June Andrews, Director of the Iris Murdoch Dementia Centre, 2010)

Designing outdoor spaces to have a therapeutic function represents a cost-effective approach. Such spaces can improve patient outcomes and lead to a range of other cost savings. Studies show that patients who are happier with their healthcare environments are easier to care for, and return home sooner. Evidence also indicates that, where the environment is improved, better staff retention results in cost savings in recruitment and training, with recruitment being enhanced in the first place. This Guide will look at the evidence for this in more detail, later.

There are also organisational, environmental and social benefits. A more creative approach to outdoor space, including participating in initiatives such as the NHS Forest in England and Greenspace in Scotland, can help healthcare facilities meet performance measures. There may also be gains for them in terms of sustainability and carbon reduction, especially in relation to tree and woodland planting.

A guide for practitioners

The Kings Fund programme ‘Enhancing the Healing Environment’ (EHE) has helped many staff become engaged in providing better patient care through improved spaces, and this Guide seeks to build on some of the lessons which have been learnt.

It is applicable to new-build sites and to refurbishments, and to the full range of healthcare settings – from the smallest health centre to the largest acute hospital. It will assist senior management teams, those engaged with policy, and everyone interested in improving patient care – whether they deal directly with patients (clinical staff, therapists, support staff) or focus on grounds management (facilities and estate managers, and practice managers).

It is also relevant to non-NHS settings, for example schools, nursing homes, everywhere where the promotion of health and well-being is important.

Well-designed outdoor spaces are an integral part of the healing environment, alongside the wards, waiting rooms and clinical departments, and provide benefits for everyone – patients, staff and visitors. This Guide sets out how, and why, this is so.

Sensory aspects of the natural environment are especially engaging.

In spring 1994, the playwright Dennis Potter, nearing the end of his life, described the tree he could see from his bedroom window.

'The blossom is out in full now ... It's a plum tree, it looks like apple blossom but it's white, and looking at it, instead of saying "Oh that's nice blossom" ... I see it is the whitest, frothiest, blossom-iest blossom that there ever could be ... Things are both more trivial than they ever were, and more important than they ever were, and the difference between the trivial and the important doesn't seem to matter. But the now-ness of everything is absolutely wondrous ... you have to experience it, the comfort of it, the reassurance ...' (Dennis Potter, Interview with Melvyn Bragg, March 1994)



Why is it important to take healing outdoors?

Understanding the benefits

- Outdoor space is an important part of the healing environment and it can be used for a wide range of activities.
- Theories have been developed to explain the health benefits of nature and these have led in turn to the development of evidence-based design.
- Trees and wooded spaces have a particular role to play in supporting health and well-being.
- Spending time outside can help improve physical health and recovery times, and confers particular benefits for mental health.
- Evidence is important, but healthcare is an art as well as a science.

In this Guide, the term 'healing' or 'therapeutic' environment or space means a place that has been designed or is used in a way which promotes the healing process, or helps to instil a sense of well-being.

This section focuses on the health and well-being benefits from being outside, though there are numerous other environmental and economic benefits associated with the creation of good natural settings.

Outdoor spaces can host a wide range of activities

Activities can be active (including helping with gardening or simple grounds maintenance) or passive (sitting under a tree). They can include walking, bird watching, socialising with other patients and family, and even Tai Chi. Playing outside is a great way for children and young people to relax and let off steam, away from a tiring medical environment, and therapeutic horticulture involving practical gardening activities has a long history of use.

Staff and volunteers at a garden party at Helen House, Oxford.



Courtesy: Helen and Douglas House, Oxford.



At Harbour House residential home in Dorset, the front lawn has been turned into a well-used space by the addition of croquet hoops. Residents help themselves to balls and mallets when ever they want to play and combine socialising with staying physically active.

Party in the garden.



Clinicians can carry out one-to-one discussions during walks around the grounds with patients. Walking side by side outdoors might well feel less threatening for many than facing someone across a desk.

In a peaceful outdoor space people can sometimes more easily start to 'come to terms' with bad news, or, conversely, celebrate good news. The Quiet Garden Movement encourages people of all faiths (and none) to enjoy stillness and reflection in peaceful garden spaces. These become oases, private spaces for thinking, and, for many people, places of spiritual refreshment and support.

Why is contact with nature calming?

'The garden gives you the chance to relax. I get lost in that garden, sucked into the trees and the birds in the sky. Before I would see these things but I didn't connect to them – it is another world – I have learned to appreciate it, and it does something to you, it's amazing.' (Patient, Glasgow Homoeopathic Hospital)

The scent of flowers.



Attention restoration theory (ART) was developed by Rachel and Stephen Kaplan in their book *The experience of nature: a psychological perspective*, and since then a number of other studies have established that this also holds true in terms of medical outcomes.

Attention restoration theory proposes that compared with 'hard' indoor or urban environments, natural environments are more efficient at helping our brains to recharge and resume what is termed 'direct attention' or focus on a particular task. Increased contact with nature restores our brains from fatigue and reduces impulsive behaviour, irritability and aggression. In her paper on *Healing Gardens in Hospitals*, writer and academic Clare Cooper Marcus states that nature engages attention without demanding any effort, because it has the effect of 'awakening the senses, calming the senses, reducing stress, and assisting a person to marshal their own healing resources'.

Contact with the outdoors can also be stimulating, as well as calming. The co-ordinator of the Creative Spaces Project in Cornwall, which enables people with dementia to enjoy outdoor-related activities, commented that, 'time and time again we find that spending time outside increases people's communication and stimulates memories, people just sparkle'.

There is a growing body of evidence, much of it rooted in scientific research, that being outdoors in a natural setting, or even just viewing the outdoors from inside, is highly beneficial for health and well-being. This is increasingly informing the design of healthcare facilities in the UK, in an approach termed evidence-based design (EBD). This approach is also informed by a relatively new field of study, environmental psychology, which seeks to understand the interrelationship between environments and human behaviour.

Trees and wooded spaces have a particular role to play

Woodlands are especially restorative environments; the sounds, sights and smells in a wood play a role in reducing stress by providing interest and stimulating the senses.

Woodlands provide a rich sensory experience, from the subtle shifts in temperature that occur between areas in heavy shade, and in sunny glades, to the scent of pine needles crushed underfoot. A woodland setting has particular acoustic qualities, meaning the quietest birdsong is audible. The age of veteran trees often inspires awe in people and provides a link between the past, present and future. Woodlands, and individual trees, are seen as representing nature, particularly in the urban environment.



Health benefits of natural settings

The healing power of nature, fresh air, sunlight and exercise have all been a feature of healthcare for centuries, but the post-war period has been characterised by a move away from nature, and towards a greater reliance on technology. Recent decades have seen a reversal of this trend and a substantial body of evidence now exists, including many literature reviews, which demonstrates the health benefits of contact with nature. Details of some of these can be found in the Further reading section at the end of this publication.

View onto garden from the inside of Chalkhill Unit.



Aside from the obvious opportunities for physical exercise, which in themselves will benefit most people, the main benefits relevant to the healthcare environment can be summarised as:

Reduction of pain and stress

- Contact with nature can reduce blood pressure, muscle tension and pulse rate, and can also have a subtle effect on our experience of pain.
- Patients and families who use hospital gardens have reported positive mood changes and reduction in stress. Even visual settings where 'nature' is prominent reduce stress and improve patient outcomes – especially where stress is accompanied by feelings of anxiety.
- A reduction in stress in turn enables the immune system to function more effectively, facilitating the healing process.

Alleviation of depression

- Depression is a serious issue not only for those with mental health patients, but also for those with cardiovascular disease and cancer. Research indicates that exposure to daylight is effective in reducing depression, even for those hospitalised for severe depression.
- Simply walking in natural settings can help mental health patients improve self-esteem, vigour and mood, and reduce tension.
- Practicing 'mindfulness' in a natural setting can be particularly beneficial for mental health.

Reduction of aggressive behaviour

- Restorative contact with nature can reduce irritability and thereby aggressive behaviour.
- Studies focusing on older people with dementia and on children diagnosed as being on the autistic spectrum have shown that both these groups find contact with gardens, and nature in general, calming.

Increased patient satisfaction

- Those mostly confined indoors particularly benefit from being outside in the fresh air and sunshine.
- Natural settings can enhance the play and learning activities of younger people.

Improved recovery rates

- Studies have demonstrated that patients who have contact with nature, even where this is simply a view through a window, recover more quickly from operative procedures.
- Patients in intensive care units with myocardial infarction exhibited shorter stays when sited in rooms with higher daylight exposure.

Improved staff performance and retention

- Good design of healthcare facilities has been found to improve staff performance, recruitment and retention.
- Post-occupancy evaluations of the outdoors in US hospitals have consistently shown that the staff are the primary users of outdoor spaces.



The staff garden at Newham Hospital provides an area for lunch as well as a venue for birthday and other celebrations.

Healthcare: an art as well as a science

In making the case for therapeutic use of outdoor spaces, the evidence base is important. However, many people also see healthcare as an art as well as a science, and encourage access to outdoor spaces as part of taking a more creative approach to patient care.

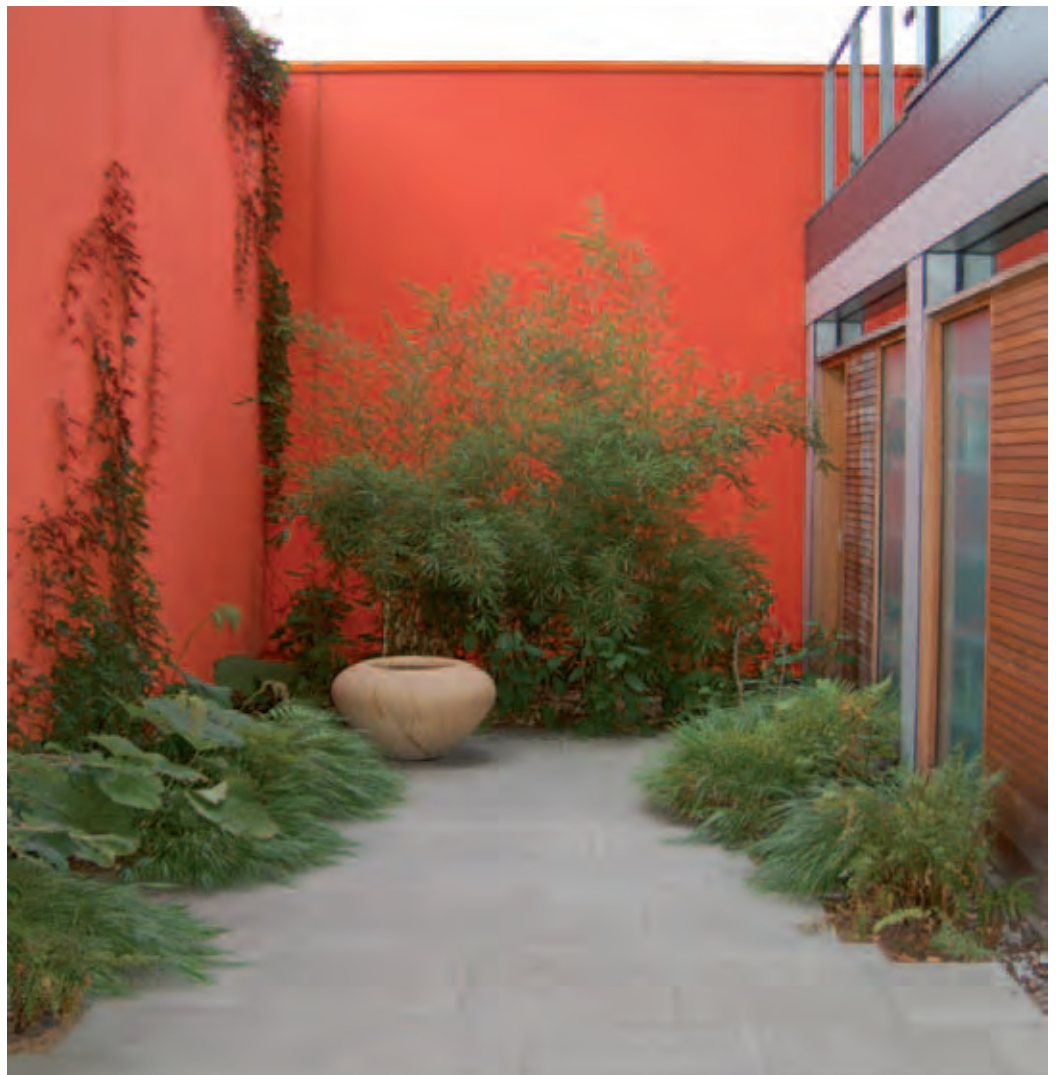
The growing evidence base for these benefits is often supported by the observations of clinicians. At the new Chalkhill Unit, where the interior is inspired by aspects of the surrounding landscape, staff feel that patients recover more quickly from illness than was the case in their previous building, which had no access to the outdoors.

This approach acknowledges the limitations in our understanding of the detailed workings of the healing process and embraces the restorative powers of nature – even when the evidence is only anecdotal.

A user of the garden at the new Maggie's Cancer Caring Centre in London illustrated this well.

'The garden will allow people to be themselves and have their own space without having to speak to anyone and sometimes that's more valuable than any medicine: one can take courage from being in a good place, breathing in courage and breathing out fear.' (Cath Knox, West London, with secondary cancer)

At Maggie's Centre in London the building is surrounded by quiet, peaceful garden areas.



Case study 1: Argyll and Bute Psychiatric Hospital, Lochgilphead, Argyll.

Practising mindfulness in a woodland setting

In 2003 a partnership comprising Reforesting Scotland, the NHS, Argyll Green Woodworkers' Association, the Scottish Association for Mental Health and Lochgilphead Community Council was formed to restore neglected woods next to the Argyll and Bute Hospital. Funds were raised from a range of sources, including Scottish Natural Heritage, the Scottish Mental Health Department, Forestry Commission Scotland and Leader. Work began in 2004 and involved many users of mental health services, disabled people, young people, contractors and volunteers.

Blarbuie Woodland was opened as a public park in 2007, with accessible paths, facilities and interpretation for quiet recreation as well as more energetic woodland management activities. There are opportunities to learn new skills, including nursery work, forestry, timber processing, woodworking and construction, and the wood also hosts art and music projects.

A wide variety of art and craft activities take place on site out in the fresh air.



Key design features

The threshold arch and signage welcomes visitors into the wood, indicates where they can go, and access is provided directly from the car park. The project makes good use of 'borrowed landscape', with spectacular views available from the site out across the loch, as well as access to the hills behind.

Routes through the woods take good advantage of views of the hills and loch.



Health benefits

Clinicians' view

'For people whom I refer, I think a lot of the benefit is a feeling of achievement in actually doing some work in the woods, seeing the benefits of their work. There's certainly the benefit of exercise; there's the benefit of fresh air; there's the benefit of working with others on a project.'

One particular theme is the promotion of 'mindfulness' in patients – appreciating the present moment without anxiety about the past or future. For many patients in this hospital with mental health problems, cultivating mindfulness is an essential skill to learn. Clinicians describe how helpful the woodland setting was:

'I think what's nice about the woods is the peacefulness of walking and the big trees and the nature, and being in a place where you can practice mindfulness, awareness.'

People have a lot of concerns and anxieties ... maybe you could be in a quiet room in a quiet ward, but if you've got a busy head it's hard to relax and be grounded, so I think it does help to go out into a woodland area, and focus on like, other things like the nature, like the trees ... and just to help empty the head, empty ...'

Patient's view

'Well I come up here and I like to just experience one with ... nature. I do really feel oneness with nature when I come up here, I just sit in the woods and just talk with the birds ... I quite like to whistle back to them and they whistle at me and I whistle back and they whistle again ... it's good for the well-being, it's definitely improved my life, yeah.'

I think I'm a lot more confident in what I do, and I'm a lot more confident in what I say to people. It's good to meet a lot of people in different aspects in the wood as well.'

All-weather paths make the wood accessible to a wide range of people, with opportunities for both quiet solitude and socialising.



What sort of spaces should we be designing?

Designing healing spaces

All of the different parts of a site can have a therapeutic purpose:

- the wider setting;
- the areas around and close to the building;
- the garden spaces.

The ability to locate a building to take advantage of a view, or to arrange a site in a way which prioritises pedestrian over vehicle access, are tremendous opportunities in any development.

In **new** facilities, this can be planned from the outset, with the value of external spaces being recognised within the business case for the development as a whole. For example, at Glasgow Homoeopathic Hospital, the building was designed so that 'patient care' spaces have a direct view and connection to nature and are separated from noisy areas, while staff areas are located to the north and east of the building to avoid direct sunlight during working hours.

Improvement of **existing** facilities requires a more incremental approach, based on an appraisal of the site as a whole, its strengths, weaknesses and opportunities. Even on the most challenging of sites there are always improvements that can be made, as the sketch examples which follow show.

Thinking about three different aspects of any site can help identify its potential therapeutic value. These aspects are:

- the wider setting;
- the areas around and close to the building;
- garden spaces.

A strategy or master plan will help to ensure that these three categories of space are all well connected with paths to make a coherent site layout.

Creating a healing environment with the wider setting

Careful thought should be given when locating new facilities, to ensure that the wider setting is part of the healing environment. In the case of an existing building, one may need to be creative about its use.

Sometimes, and especially on cramped urban sites, access to the outdoors is restricted to a view of the wider setting and in these situations it will be **essential** to make the most of it – perhaps simply rearranging a day room to look out of the window to the landscape beyond. Many in-patients may be confined to bed and enjoyment of sunlight and a natural view can greatly enhance their stay, and possibly accelerate their recovery.

On more spacious sites it may be possible to connect with the surrounding landscape by framing views and linking paths. The route around Salisbury District Hospital connects with nearby



A break away from the ward, enjoying a chat in the sunshine.

footpaths, and staff are encouraged to use this path circuit in their breaks. In Scotland, where there is wider public access to open space, the NHS estate has great potential to become a valuable resource for the whole community.

Creating a healing environment in the building surroundings

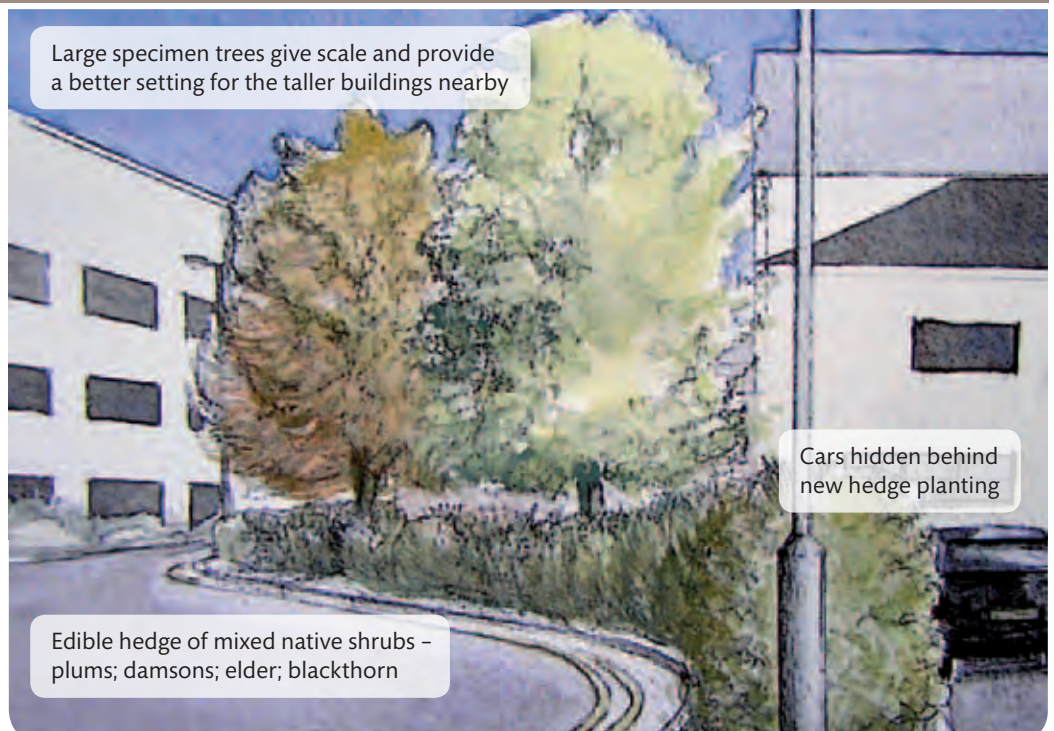
The patient's experience starts outside the building, and their initial impression of it plays a big part in their perception of the service, as well as influencing the level of stress experienced in attending.

With careful design, spaces round the building such as car parks and entrances can and should enhance the patient (or visitor) experience considerably – even though they may not be specifically designated for therapeutic use. Well-designed surroundings are easy to negotiate, meaning that the journey from site entrance to the ward or waiting room is as pleasant, well-signed and relaxed as possible.

Tree and hedge planting would help make this bleak road on an urban hospital site more of a pedestrian environment, rather than one simply focused on traffic and car parking.



Above: Existing view.
Right: How the improved area could look.



Large specimen trees give scale and provide a better setting for the taller buildings nearby

Cars hidden behind new hedge planting

Edible hedge of mixed native shrubs – plums; damsons; elder; blackthorn

Creating a healing environment in garden spaces

Garden spaces are predominantly natural in character and can contain lots of planting. They range in scale from the very large to the very small, and from formal herb or physic gardens, through to orchards and more extensive lawns with specimen trees.

Garden spaces next to buildings offer the greatest therapeutic potential. Proximity to wards or waiting rooms is absolutely essential to encourage not only independent access but also staff-assisted access – a nurse or play assistant is much more likely to take a child into a garden accessed from the ward than one that requires a trip away from it.

Some buildings have hidden courtyard and roof garden spaces, which may have strong potential in terms of proximity and accessibility, as long as there is adequate signage within the facility to alert people to their presence. These spaces are always worth exploring as a priority for development as a healing environment. More remote open spaces on the site may be too far away to be easily reached and well used.

Great Ormond Street Hospital is located on a very constrained site in central London, with almost no outdoor space at all, so the new staff garden there was constructed on the roof. The garden can be hired for events such as birthday parties and shelter from the wind is provided by glazed panels which still allow panoramic views of the London skyline.

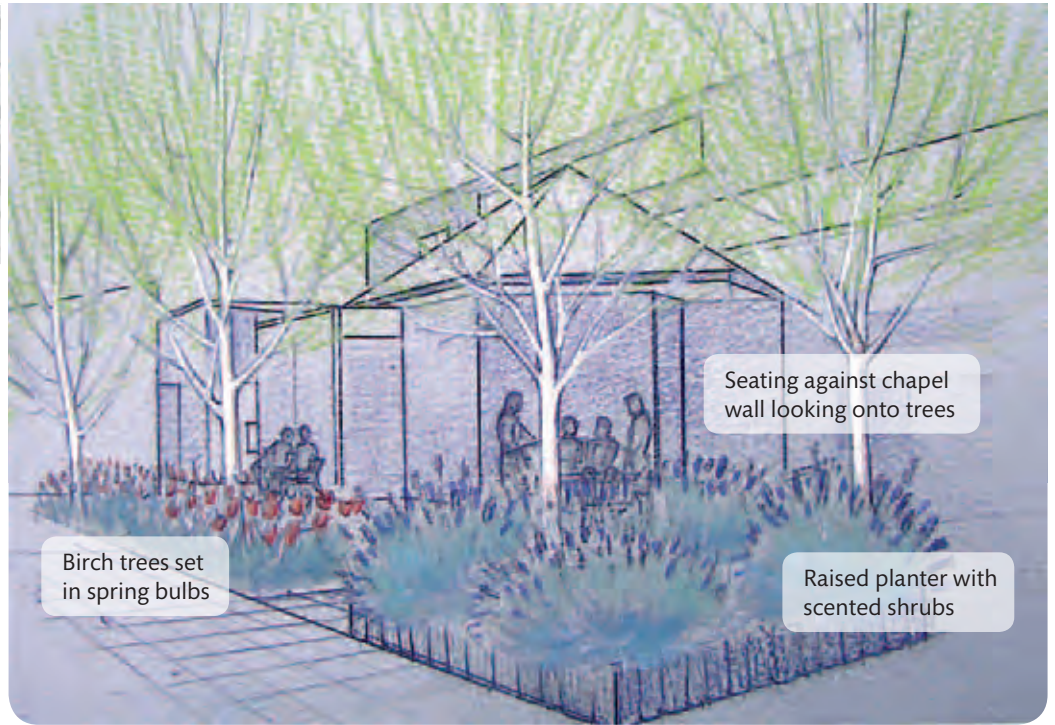


Great Ormond Street Hospital roof garden and commemorative inscription to a previous member of staff.

With new seats and some extra planting, this unpromising area outside the chapel could become a 'Quiet Garden' at Charing Cross Hospital, London.



Above: Existing view.
Right: How the improved area could look.



Case study 2: St Catherine's, Rotherham, Doncaster, and South Humber NHS Foundation Trust, Yorkshire

A creative approach to external spaces across the site

St Catherine's Mental Health Trust Headquarters is located in a Grade II Listed building set in a parkland site on the outskirts of Doncaster. Originally the home of a Victorian industrialist, the building is surrounded by a large number of newer buildings, offering a wide range of settings for those with mental health problems.

Adult Mental Health Unit garden.



Courtesy: RDaSH NHS Foundation Trust.

The wider setting

The Environment Manager is developing a proposal for opening up a new footpath link through the hospital grounds, which will connect the proposed housing development next to the site with an important local nature reserve, Potterick Carr. This new route will provide a circular 'greenway' as well as a wildlife corridor for the birds in the nature reserve.

Benefits:

- Biodiversity benefits for the site and the wider setting.
- Benefits for the public profile of the Trust.
- Increased potential for developing a Healthy Walks programme for the local community.

The building surrounds

The parkland is characterised by outstanding trees and woodland. This is currently being augmented by new planting, as part of the NHS Forest initiative, to help screen neighbouring development and provide extra privacy for those using the grounds. Work will include extending the existing 'red path network', which patients use to identify safe walking routes round the site. The new path will also be available for local residents, as well as staff on site – there are already several groups of staff who regularly complete circuits of the site at lunchtime.

New NHS Forest planting will complement existing mature trees and also screen neighbouring development.



Staff, visitors and certain patient groups have free access to the parkland surrounding the hospital buildings.

Benefits:

- Trust better integrated within local community, resulting in a better understanding of mental health issues and increased access to the Trust site for local residents.
- Longer walking route for patients and increase in exercise being taken.
- Increased biodiversity and amenity from additional trees.

The garden spaces

The garden attached to the new low-secure Cusworth and Brodsworth wards, and the medium-secure Psychiatric Intensive Care Unit (PICU) is accessible 'on demand' to the in-patients there. The impact of the standard 3 m high fencing enclosing the space is mitigated by colourful herbaceous planting and there is plenty of seating to encourage people to spend time outside. The historic walled garden now houses a horticultural therapy project, where local residents can buy plants.

Benefits:

- Free access to the outdoors helps restore a sense of control for patients, especially important for those detained against their will.
- An attractive view of a natural environment is beneficial even for those who rarely venture outdoors.
- The retail aspect of the Walled Garden Project strengthens connections with the local community.

The Estates budget is contributing funds to these improvements in the grounds. Initial NHS Forest planting cost £5000 (with additional Woodland Trust support) but an additional £24 000 is now being added to a Big Lottery Grant to make a total of almost £250 000 for a second phase of work. This will improve access to the woodland and include engagement with the local community to recruit a team of volunteers to create and maintain paths, assist with woodland management and potentially even transform the site into a 'green gym'.

The historic walled garden houses a social enterprise project, where service users develop new skills in horticulture, helping them to return to employment.

Enclosed courtyard, Psychiatric Intensive Care Unit, Skelbrook Ward.



Courtesy: RDaSH NHS Foundation Trust.



Design principles

The design principles set out in this section provide a checklist for anyone improving existing spaces or creating new ones:

1. Value what you have
2. Create places which feel special
3. Make the outside accessible
4. Focus on people's needs
5. Connect with nature
6. Balance risk with benefits
7. Design for change

Designing outdoor spaces for therapeutic purposes means considering a number of factors. How will the space be used? Is it easily accessible? Are there particular clinical needs to consider? What about health and safety?

The design principles which follow have been developed primarily to provide a framework for people without a design training, to begin to think through the elements of an individual project, and to tackle some of the questions listed above. They are not intended to cover every aspect of design, but to provide an introduction to the subject. They have been formulated to reflect what is most important and relevant to healthcare settings.

The principles are intended for spaces which will have a predominantly therapeutic function, and are applicable to both garden spaces close to buildings and to the further reaches of a site, as well as to new facilities at the planning stage, and existing facilities being improved.

Most projects will require input from a design professional. The role of the designer will be to design a scheme so that it is fit for purpose. Most designers prepare detailed drawings and specifications for those who will actually construct the new garden, although some landscape gardeners or contractors also offer a 'design and build' service.

It is always advisable to employ a designer who has had some formal training in this field, rather than using an architect or interior designer who may not have experience in designing outdoor spaces.

Garden designers may be able to tackle smaller spaces successfully and they can often offer particular expertise in planting design, which should be a major element in any therapeutic space. **Landscape architects** should be employed on larger, more complex schemes. Though they share many skills with garden designers, they are often more used to working in the public domain and can take full responsibility for designing both hard and soft landscape elements.

Design professionals working to create a 'therapeutic outdoor space' should also find the design principles overleaf helpful. **Even someone without any design training who is interested in making the outdoor space part of the healing environment can help develop a worthwhile project.**

1. Value what you have

Healthcare facilities are often in a state of flux as they develop to meet changing health needs. There is constant pressure for new buildings or additional car parks, and even new housing, and open space may seem the obvious place to put them.

The Hippocratic Oath 'First, do no harm' is a good guiding principle for developing outdoor spaces. By valuing what is already there, and understanding the benefits that open space provides – most importantly, the very special therapeutic benefits, the case for safeguarding open space grows stronger.

How do you 'value' what you have?

To value an existing space it is essential to understand two things: what you've got, and how it is already used. Maybe there is already space on the site for recreation but people do not know about it, or there might be things about it which are putting people off, for example litter or overgrown vegetation. Sometimes some simple house-keeping is all that is needed to encourage people to use an area.

Well-designed facilities are carefully planned to preserve and enhance key site features such as important trees or protected species. Taking a master-planning approach and locating new buildings following a detailed analysis and appraisal of the site, rather than locating them in an opportunistic way, will always give better results.

Sometimes the opportunities are hard to identify, as at Ninewells Hospital, Dundee.

Ninewells Hospital was located in an elevated position to take advantage of the panoramic views over the Tay estuary. However, access to the outdoors for patients has, until now, been limited to the small 'fresh air' garden close to the entrance.

A landscape architect was appointed to develop a master plan for the whole site, with the help of Forestry Commission Scotland. The site appraisal showed that one of the best opportunities for access was the wooded parkland to the south of the site. It had the potential to be used by more mobile long-stay patients, as well as staff and visitors, and the surrounding community.

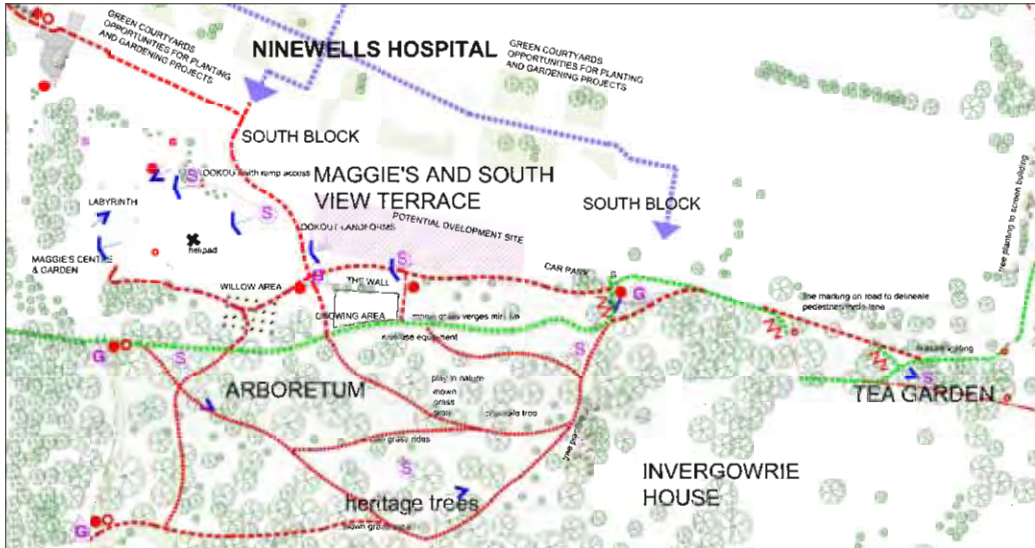
The construction of a network of cycle and footpaths through the hospital grounds is now under way. New seating, rest areas and interpretative information will encourage greater exploration of the woodland, and make the most of the views over the River Tay.

Aerial view of Ninewells Hospital in Dundee.



A master plan for the site was prepared by a landscape architect.

Red squirrels may be returning to the woods at Ninewells.



New paths around the hospital grounds.



The three first steps

Step 1: A site appraisal/analysis by a sustainability manager or facilities management team, with the involvement of a clinician who has knowledge of the potential benefits for patient care. Where are the opportunities? Are there particular strengths and weaknesses? Input into the site appraisal, in terms of health promotion, from the NHS or even the local authority would also be helpful.

Step 2: The Trust team will need to **set out and adopt a policy** regarding the role of open space within the wider patient care environment. Support of senior management teams, including the Chair and Chief Executive, and the maintenance staff is essential. The policy should include the business case for therapeutic use of open space across the site. Cross-reference should be made to other drivers, such as local Trust or Board performance measures, and national initiatives such as the NHS Forest project or NHS Greenspace in Scotland.

Step 3: An **action plan** to prioritise improvements and potential funding sources. At this stage additional design support from a landscape architect is likely to be essential, particularly with larger-scale spaces or more complex sites.

2. Create spaces which feel special

Sense of place

Pine trees at Chalkhill have inspired the design of the interiors.



One of the most important principles in landscape design is that design should always be specific to its location. Working with the site will enhance the sense of place, and may even make it cheaper to develop.

The poet Alexander Pope wrote about designing with nature and ‘sense of place’ – in other words, work **with** nature, and work **with** the site. This will entail analysing its character, its strengths and weaknesses, considering opportunities, celebrating and enhancing the familiar in the locality, and designing to delight. In this way the site will comfort and stimulate, be enjoyed and treasured, and be a place where people want to spend time.

Spaces which feel like ‘places’ will be well used

The aim is to create spaces that are places in their own right, with a strong character, which will help to ensure that a space will be well used. In Scotland, the ‘Good Places, Better Health’ framework promotes the health benefits of well-designed spaces. It recognises that poor environments may foster hopelessness and stress and discourage healthy behaviour, whereas the creation of positive physical environments may nurture better health and well-being.

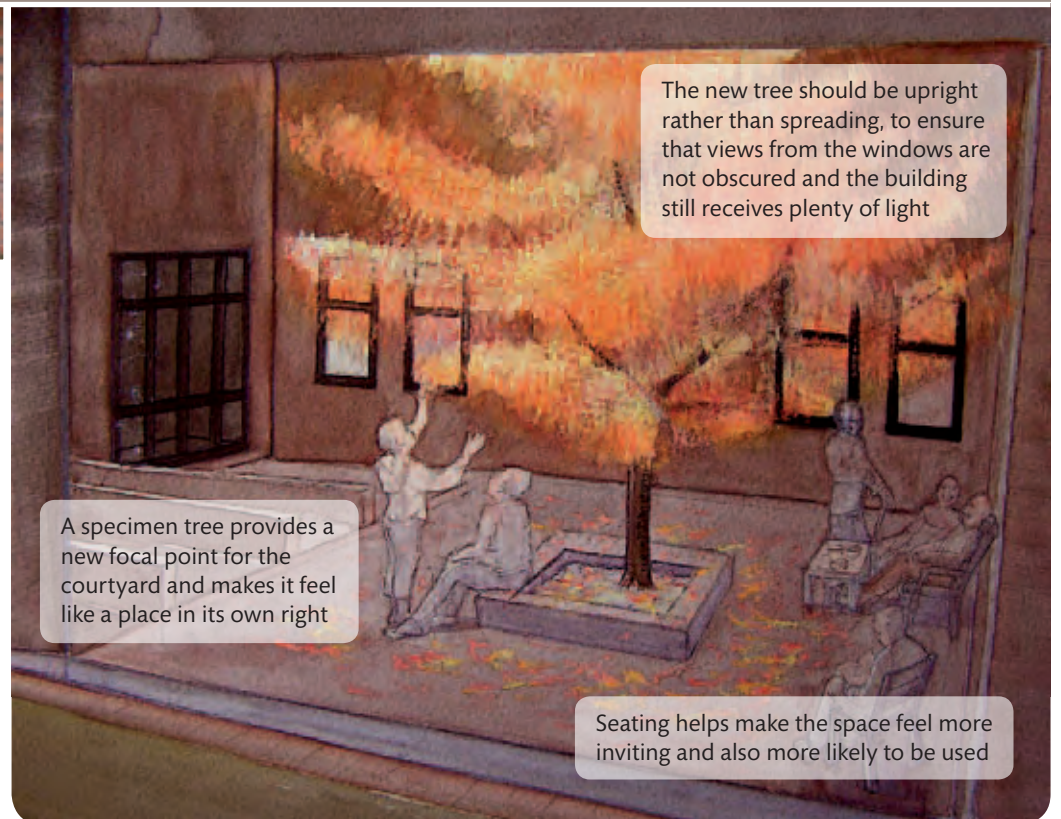


Special features should be protected and incorporated in the design where possible. Trees, including fruit trees, are especially helpful in establishing a sense of place, often combining a distinctive appearance or character with an increasing sense of antiquity as they mature into venerable specimens.

Adding a tree to this dull courtyard will make it feel more like a place, even inviting on a warm autumn evening.



Above: Existing view.
Right: How the improved area could look.



The new tree should be upright rather than spreading, to ensure that views from the windows are not obscured and the building still receives plenty of light

A specimen tree provides a new focal point for the courtyard and makes it feel like a place in its own right

Seating helps make the space feel more inviting and also more likely to be used

In rural areas it is important to be aware of 'local distinctiveness', or what makes the locality different and special. Often it means using materials characteristic of that area, for example stone paving or particular plants – such as box, which gives Box Hill in Surrey its name. In Sheffield on the Northern General Hospital campus, old industrial artefacts are placed around the site at key locations. These provide informal meeting and orientation points, and remind everyone that Sheffield is a city with a rich industrial heritage.

At the new Second Rhondda Community Hospital in Wales, which was built on the site of a former coal-mine, the landscape has been carefully designed to reflect the character of the surrounding landscape. Dry stone walling – used locally for field boundaries – features prominently, and has also been used to create seating spaces in the courtyards. Slate is used as a substitute for gravel and also to form 'standing stones' which provide strong focal points in some of the other courtyard spaces.

Artwork designed in a second phase of work to enhance the courtyard features also helps to give these spaces a distinct character.



Courtesy: 4D Landscape Design.



Courtesy: James Newmarch.

Using local materials will ensure that outdoor spaces reflect the character of their surroundings.

3. Make the outside accessible

An integrated approach

This approach integrates buildings and structures with the wider landscape, rather than focusing mainly on buildings and designing the site 'from the inside out'. Where possible, this more strategic approach is preferable to tackling external areas on a 'garden by garden basis', which can only infill the spaces left over once the building has already been designed. Well-integrated sites will, by definition, be accessible.

Easy access

Alongside the quality and proximity of the space, easy access is probably the most important factor in determining whether spaces will actually be used. Designing the buildings with regard to their outdoor space should help to ensure that there is plenty of direct access from inside, out into the spaces. At Newham University Hospital in London, courtyard spaces off the main corridor provide easily accessible spaces for the ground-floor cafés and wards. More mobile patients on the upper floors also use these gardens, taking the lifts or using the stairs to get there.

Where appropriate, wards should be designed to allow beds to be wheeled out into the sunshine (remembering that some patients will also need to be in shade). For many hospices this is a routine practice, such as at the Joseph Weld Hospice.

A bed is made ready to be wheeled into the sunshine.



Beds can be wheeled out onto both the balconies and the patios.



Images courtesy: Joseph Weld Hospice.

The sun room offers a taste of the outdoors at Lambeth Community Care Centre.



Courtesy: Edward Cullinan Architects.

A clear hospital policy on using outdoor spaces will also help to give staff confidence to encourage patients to go outside where appropriate.

For many people, and especially those confined to bed, being able to enjoy the outdoors from inside is important, and views of trees or a garden should be available. This means taking care that the window is low enough and the bed is orientated towards it. Some of the Kings Fund's 'Enhancing the Healing Environment' projects have involved retro-fitting doors to make 'hard to reach' spaces accessible. This is often worth exploring in existing buildings.

The Lambeth Community Care Centre is cleverly integrated with its setting, and the gardens are seen as an essential part of patient care. Sun-rooms and balconies are popular with patients who are not yet ready to go outside, but who still want to enjoy the fresh air. Even patients in wheelchairs on the upper floors can go out independently, along a high-level walkway which connects the balcony areas with the garden.

Being creative

Some organisations and healthcare settings are experimenting with different ways of bringing nature inside, where particular patient needs or the design of the building means access to the natural environment is limited.

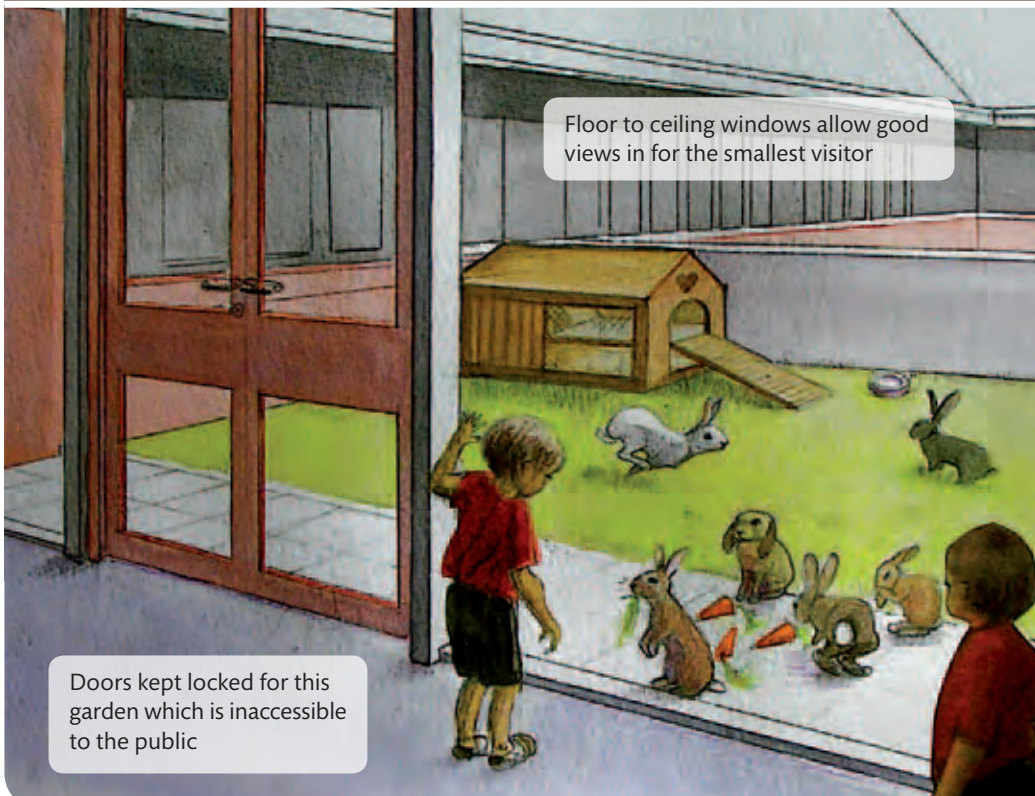
- At Alder Hey Children’s Hospital in Liverpool, recorded birdsong is played in some wards and CDs are given to patients when they leave to assist with their recovery at home.
- At Dorset County Hospital in Dorchester, in the chemotherapy unit where infection control is a high priority, live film is transmitted from a nature reserve run by the Dorset Wildlife Trust as part of the hospital’s ‘Room With a View’ project.
- In some climates, or on very small sites, ‘winter-gardens’ or conservatories may be the most sensible option for therapeutic functions such as physiotherapy, especially for children.



A ‘woodland setting’ for the new Children’s Unit at Salisbury Hospital.

Courtesy: Sam Boex / 3D Solutions.

An especially creative approach will be needed where outdoor areas are inaccessible: the children here can watch the pet rabbits playing, through the windows.



Floor to ceiling windows allow good views in for the smallest visitor

Doors kept locked for this garden which is inaccessible to the public



Above: Existing view.
Left: How the improved area could look.

4. Focus on people's needs

In successful therapeutic spaces, meeting people's needs comes first, rather than the drive to reduce maintenance costs or avoid risks being prioritised. Designers should work closely with people (user groups, or their representatives) to understand these needs, rather than proceeding on the basis of assumptions – which might be mistaken.

Inclusive design

An important general point is that spaces which are designed to have a therapeutic function should feel **comfortable** and should be places where people feel safe, relaxed, at ease, and not overlooked or constrained.

Multi-functional spaces such as general garden areas are often intended for a wide range of people with widely differing needs. The 'Inclusive design' approach is particularly relevant for these – catering for specific needs in a subtle way which means spaces (or structures) can be enjoyed by all users, rather than by one specific user group. According to David Kamp, an inclusive design specialist, 'Design considerations ... are often subtle details, easily overlooked except by those who need them'.

It may be the case that some people's requirements are conflicting. Jasmine planted in a garden to help alleviate symptoms of depression might prove too highly scented for the chemotherapy patient struggling with nausea. Working closely with potential users (or their representatives) will help overcome such issues.

The Sensory Trust, based in Cornwall, has developed the Creative Spaces Project with Cornwall Care, Cornwall's largest independent care provider. The project aims to improve care home gardens so that they meet residents' needs. In order to understand these, the Trust ran a number of events – such as an outing to the Eden Project led by young people, and the 'design workshop' in the garden, where resident Ernie was invited to share his garden memories with staff.

Garden visits and design 'workshops' all help to clarify people's needs.



Images courtesy: Sensory Trust.

Catering for specific therapeutic needs

In some spaces, the layout needs to be quite specific to the user group. For example, in a mental health development, a garden used by elderly patients with dementia will be quite different to one used by young men with mental health problems related to drug misuse. Funding for garden spaces may also be easier to protect when the links to specific therapeutic functions are made very clear.

Involving disability access groups is essential to ensure that all the key issues are addressed, especially with regard to intelligent and sensitive interpretation of the Equality Act (2010). Catering for broader equality and diversity commitments may in some situations also extend to addressing cultural issues.

At the new Alzheimer's Respite Centre in Dublin, the garden is fully secure and has been designed to avoid 'dead' ends, focusing instead on a loop system. Many of the patients wander, and making this wandering more purposeful reduces the likelihood of them becoming stressed.

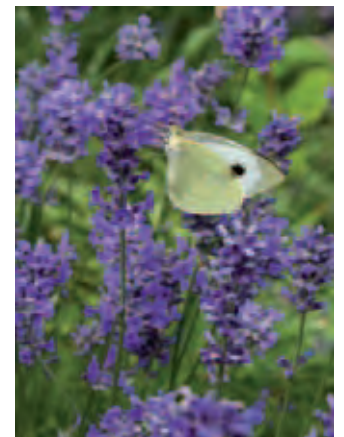
The Centre Manager described how helpful the garden is for residents: *If someone is getting worked up ... you can take them outside, even in the winter ... the person often calms down more quickly than inside, where the walls can feel very confining ... we have scented herbs like lavender around doorways and we encourage residents to crush the leaves in their hands, to release the scent onto their skin.*

The garden at the Alzheimer's Respite Centre, Dublin, is designed to be secure but also safe and welcoming.

Scented lavender.



Courtesy: Nick Kane.



It's how a space is used that counts

Sometimes, a lack of funding or staff resources means making as much as possible of an existing area. In the absence of a new design, encouraging the staff to use the area more creatively may enable a space – which on the surface seems to have little therapeutic potential – to meet people's needs. The Creative Spaces Project in Cornwall introduced simple outdoor 'activity stations' into the gardens of care homes, encouraging residents to spend more time outdoors and to explore new areas. And at Williton Hospital in Somerset staff, encourage patients outside to re-learn old skills – in the case of one gentleman who was a butterfly collector, using a butterfly net!

5. Connect with nature

The excitement of meeting a snail for the first time.



Courtesy: Chloe Evans-Lippett.

Nature lies at the heart of outdoor spaces for health and well-being. Trees, springtime flowers, shrubs, birdsong, autumn colours, a gentle breeze, sunshine and rain are all so much part of everyday experience that it is easy to take them for granted. For those who are ill in hospital wards, or perhaps anxious or stressed, they can greatly assist the healing process.

Using natural materials, and making the most of natural 'elements' (earth, wind, water) as well as planting all help to stimulate the senses and reconnect people with nature. A small bird-feeding area or plants chosen to provide nectar for butterflies will give everyone something extra to watch and another reason to go outside, even if just for a short break.

Wildlife

Planted areas are also much more likely than paved ones to attract birds and other wildlife, which add extra life and interest to a garden, like the café courtyard sketched below.

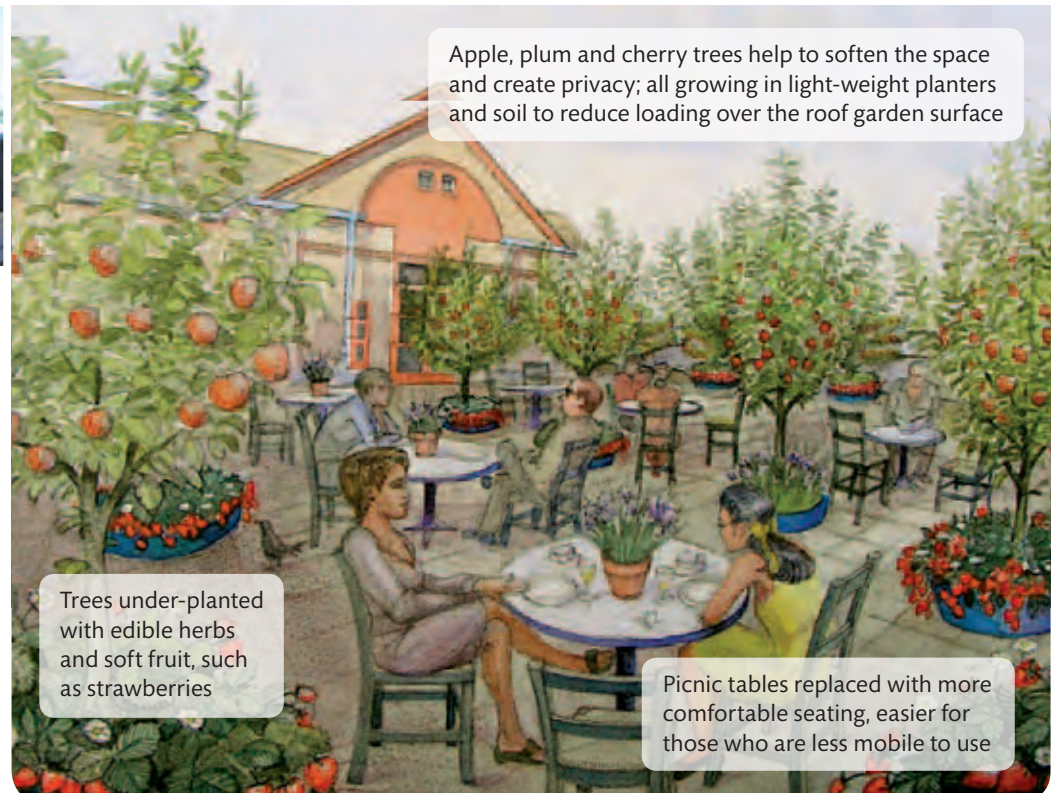
'One of the reasons I wanted to work at the Homoeopathic Hospital, is the building. It is light and airy and welcoming. The sense of space is extravagant for a hospital. The best thing about working here is opening the windows and listening to the birds singing as I work.' (Candida Fenton, Librarian at Glasgow Homoeopathic Hospital)

In schemes with a strong emphasis on wildlife, it will be important to make sure that 'native' rather than ornamental plants are used. This will help to ensure that the scheme benefits local biodiversity as much as possible. Even modest improvements to a space to create a new garden could have major benefits for wildlife in the vicinity and help facilities meet their local performance targets in terms of the environment.

The café courtyard sketch here shows how a rather dull paved space could easily be turned into a more interesting outdoor eating area.



Above: Existing view.
Right: How the improved area could look.



Apple, plum and cherry trees help to soften the space and create privacy; all growing in light-weight planters and soil to reduce loading over the roof garden surface

Trees under-planted with edible herbs and soft fruit, such as strawberries

Picnic tables replaced with more comfortable seating, easier for those who are less mobile to use

For example, in the south-west, planting a small area of Devil's bit scabious might help to attract the endangered marsh fritillary butterfly, a priority species in the UK Biodiversity Action Plan.

The Wildlife Garden at Tiverton Hospital focused on making small-scale changes to encourage wildlife, such as the introduction of areas of native planting. The whole scheme has cost less than £1000 to implement (excluding the value of volunteer labour).

The Wildlife Garden at Tiverton Hospital.

Wild flowers in the new meadow areas.



A surgeon at the hospital who is a keen advocate of 'healing gardens' worked with the Estates Department to make a sterile space more appealing to a wide range of birds, butterflies and bees. Patients are now able to watch the hedgehogs trundling around the garden at dusk from their beds.

'The robins are nesting now in last year's blackbird nest, and there are hedgehogs using the purpose-built nest box, so something must be right AND the patients tell me they love the birds, and wildflowers under a canopy of trees. It really is a Healing Garden.' (Dr. Gavin Haig).

The insect nest-box and hedgehog house are just a few ways in which the garden caters for wildlife.



6. Balance risk with benefits

Caring for patients and keeping them safe is obviously a key objective in healthcare, along with restoring health and well-being. There are risks involved with access to the outdoors, for example when patients venture out of the ward into an adjacent garden, but these must be weighed against the benefits of exercise and reconnecting with the outside world.

Managing design constraints constructively

Mental health settings can be especially challenging for designers, but with a growing understanding of the importance of access to the natural environment, many settings are now providing high quality spaces – especially important in residential units or where people are detained under the Mental Health Act (1983, as amended).

In the Wandsworth Recovery Unit at Springfield University Hospital in London, the building walls create secure internal courtyard spaces which are freely accessible. Here, despite the operational need for supervision, a civilising and humane setting has been created which supports therapeutic intervention.

Wandsworth Recovery Centre is a relatively high security setting but the layout of the outdoor areas is characterised by design quality rather than ‘robustness’. The seating here is a good example: sturdy, but with a tactile, softly undulating surface designed in way which radiates calmness.

Tactile seating at the Wandsworth Recovery Centre.



Courtesy: David Butler.

Input from both the health and safety and infection control departments may be part of making sure that a space is suitable to use. Their input should be managed constructively, to avoid taking a ‘risk averse’ approach to design. The risk-benefit assessment (RBA) process, where the benefits of an activity or design are examined alongside any risks, is used now by many organisations – including the Forestry Commission – as a constructive way of managing liability. It has government support through the Health and Safety Executive (HSE).

At the stroke rehabilitation unit of Williton Community Hospital, Somerset, the garden is well used by in-patients and their families. All patients who are mobile enough are allowed into the garden on their own, and they enjoy using a small network of paths, to re-learn their balance and walking skills. They are also allowed accompanied access to areas off-site.

An example of how the decision-making process described below could be documented using a risk-benefit assessment process can be found in Appendix 2.

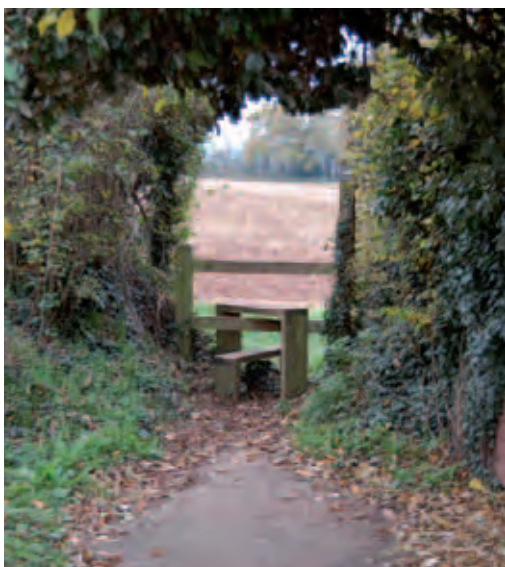
The gardens around Williton Hospital in Somerset are unremarkable in appearance, but they are used creatively by the therapists there. Senior Occupational Therapist Sonia explains:

'We believe it's really important to allow patients the freedom to enjoy the garden unsupervised [once they have been assessed as being able to manage with relative safety]. Having that extra bit of independence means that they have to learn to be more confident outside, which is an essential skill for them to master if they are to be discharged successfully. Sometimes, yes, they do have a fall, but we look at these incidents in a constructive light and the information about how and why it happened then informs our therapy and treatment programme to reduce the chance of it happening again.'

Because we're in a rural area, we have a lot of farmers through, and it's especially important that they are confident in a more 'informal' setting – no use just being able to walk on tarmac. So with them, we might take them under supervision onto the footpath next to the garden and even over the stile and into the field, walking over rough newly-ploughed ground. It's so important for them to know that they can do these activities.'



Garden, Williton Hospital.



Path leading to surrounding fields from Williton Hospital.

7. Design for change

Natural spaces evolve with time

Imagining, designing and creating an outdoor space is just the beginning – a space needs to last long term. Spaces designed carefully can be enjoyed throughout all stages of their lifespan. This is especially important for schemes including trees, which will change markedly as they grow through establishment to maturity.

Successful grounds maintenance is well planned and adequately resourced

Grounds maintenance costs should be considered from the outset, and set at a level which still allows the space to meet users' needs. For example, paved areas would be cheaper to maintain than planted ones, but they will never achieve the same therapeutic benefits.

Well-resourced grounds maintenance is important at any scale. At the new Forth Valley Royal Hospital at Larbert, Stirlingshire – a very large scheme – the developer was obliged by a Planning Obligation to endow the outdoor spaces with a fund of £250,000 for restoration and maintenance. At a much smaller scale, at the Lambeth Community Care Centre in London, the budget has been structured to cover the costs of a part-time gardener, with any additional costs being covered by income raised from plant sales, open to local people.



At Lambeth Community Care Centre the gardener prunes shrubs carefully rather than using a hedge-trimmer.

Design to anticipate changing conditions

Open space can be especially useful in the context of a changing climate. Trees can be planted to provide shade in hotter summers, help to moderate the effects of heavy rainfall, filter air to improve quality, absorb CO₂ and support biodiversity, and improve the beauty of a place. They can even reduce management costs, compared with mown grass.

To achieve the carbon targets it is aiming for, the NHS must design and maintain outdoor spaces sustainably. The Centre for Sustainable Healthcare is working to help the NHS become more sustainable and the NHS Forest initiative, which aims to plant one tree for every employee across the NHS estate (and beyond), is an important element in its programme. Woodland screen planting, such as that shown opposite, would be a suitable project for this programme.

Introducing larger-scale planting will be possible on more spacious sites and will make them more attractive to staff and visitors, as well as patients. Using native species will also bring wider environmental benefits.

A limited amount of meadow grass, where appropriate, helps reduce frequency of grass-cutting and improve biodiversity on the site

Trees can help the NHS meet sustainability targets and provide wildlife habitat

Improved amenity value of site - especially near to countryside - enhances the environment for staff, visitors and patients



Above: Existing view.
Left: How the improved area could look.



At Enniskillen in Northern Ireland, the new hospital is being implemented under a private finance initiative contract to high standards of sustainability, with the best possible integration of built development and the landscape as one of the project's key objectives.

An important element of the project is the reconstruction of wetlands round the buildings, using surface water run-off from roofs and hard surfaces. Other sustainable solutions include the extensive use of locally-grown native flora, and the creation of extensive species-rich meadows close to (and visible from) the hospital buildings.

Atrium view of lough at Enniskillen, Northern Ireland.



Illustration: Richard Carman, Courtesy: NIHG / LUC.

Paediatric courtyard at Enniskillen, Northern Ireland.



Linear gardens at Enniskillen, Northern Ireland.



Illustrations: Richard Carman, Courtesy: NIHG / LUC.

Summary

The design principles set out above have been developed to reflect the issues of most importance within healthcare settings; following them will help ensure that the design of outdoor spaces for therapeutic use is successful. They will provide a good overview of the key design principles for all those who may lack specialist expertise, and who may be involved in commissioning or developing landscape projects.

Maggie's Centre at Charing Cross Hospital, London is an excellent example of a scheme which placed design quality at the heart of the project, and also illustrates clearly several of the principles listed above.

Case Study 3: Maggie's Cancer Caring Centre, London.

Illustrating the design principles

There are already a number of Maggie's Centres throughout the UK, usually developed as flagship projects by established designers working on a 'pro bono' basis. Although in the case of this particular centre in London, where the overall budget was generous (funded by charitable donations and fundraising), there are many aspects of the project that would be easily replicable on the more modest budgets typical of an NHS scheme.



There is growing evidence to show that the emotional state of cancer patients, and that of their family and friends, can influence their cancer experience, treatment and recovery. Research in the field of environmental psychology has established that our physical environment affects our behaviour, and well-designed environments such as the Maggie's Centre in London have been shown to enhance quality of life and a person's ability to cope with stress.

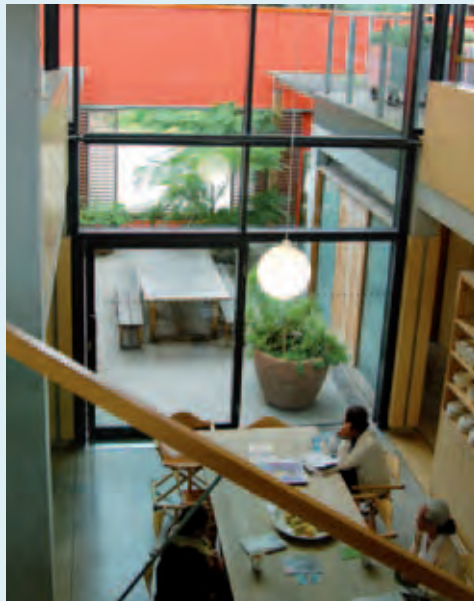
The garden illustrates particular design principles mentioned in this guide very clearly, as shown in the images.



'Most people said they felt that the plants softened the building but also the whole experience of being there. The plants simultaneously create a sense of calmness (soothing) but also a sense of energy – people often talk about being fascinated by the speed things grow at and they look forward to seeing the next stage in the plant's development; there's a vitality about the buds opening, and new leaves unfurling. For people with cancer, anything which helps them look forward to the future with a sense of hope is massively helpful.' (Researcher, Maggie's Centre London, 2010).

Design for people's needs: The site radiates calmness and tranquillity, which helps relieve the anxiety and stress often experienced by those with cancer, and their families and friends. The relaxed mood and easy, inside-out flow help make the centre feel like a sanctuary in the busy urban environment in which it sits.

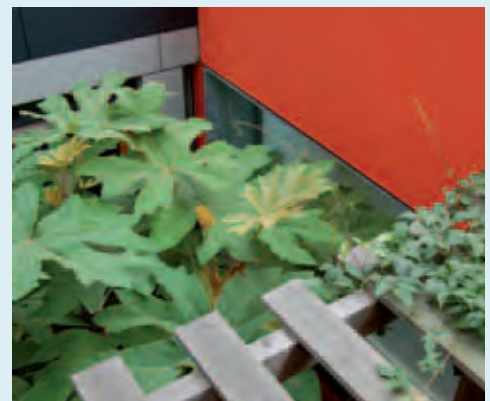
Make the outside accessible: The landscape designer worked closely with the architect and this has helped create a building which is fully integrated with the external areas. The garden surrounds the building and grows through it in a series of intimate and sensual spaces. Each room has its own access outside, and the large windows everywhere make the outdoor spaces possible to appreciate even on a wet wintery day.



Courtesy: Maggie's London.

Connect people with nature: planting envelops the whole building and the trees – once established – will help screen the noise and bustle of the surrounding streets and traffic. The planting has been carefully planned to include scented foliage, and to create a good balance of intricacy and simplicity of scale.

'By stimulating all the senses and providing a connection to nature in an urban environment, Maggie's London will put all visitors in touch with this healing potential' (designer).



How do we put the theory into practice?

Overcoming the challenges

Each type of healthcare setting will have its own particular challenges to overcome in order to provide therapeutic outdoor spaces. Some methods of procurement, such as private finance initiative schemes, also need to be tackled carefully to achieve the best outcome possible.

There are many examples of good practice throughout the country where these challenges have been successfully solved.

Private finance initiative schemes

The challenge: Many types of NHS facility are procured under private finance initiative (PFI) schemes. A Trust that places low value on landscape at the outset risks seeing this aspect diminished even further during delivery, with proposals eroded by inevitable contractual and financial pressures.

The solution: While strongly focused on a cost-effective design and construction process, new PFI schemes can still deliver high quality landscapes which can have a therapeutic function (and with existing schemes, changes can be made by variation to the contract).

Where there is no existing guidance on requirements for outdoor space, the procuring authority should include these requirements in its output specification. Bids should place emphasis on, and allow proper costs for, a landscape-led approach secured through the preparation of detailed proposals, including agreed levels of quality and provision, at Preferred Bidder stage. The proposed Enniskillen Hospital exemplifies this process.

Enniskillen Hospital, in Northern Ireland, North Spine View.



Illustration: Richard Carman. Courtesy: NIHG / LUC.

Acute care

The challenge: Wards are frequently relocated in acute hospital settings, making long-term planning difficult, with little incentive for capital investment. There may also be a perception that investing in access to the outdoors does not offer a good return when many patients are mostly confined to bed.

The solution: At Salisbury District Hospital in Wiltshire, the Arts Manager, together with the Facilities and Estates Management Team, has identified a number of spaces for potential improvement. These lie outside the hospital's 'development zone', have potential amenity value, and have a user group close by. With a strategy now in place, improvements can proceed with confidence as funding becomes available.

In the hospital's plans for a courtyard garden, the space will be accessible from both the Stroke and Oncology units. The sketch below shows how features can be included to help patients from the Stroke Unit improve their mobility and balance while also making an attractive space for other people.

New planting, paths and seating would transform this space for everyone, whether patients, staff or visitors.



Above: Existing view.
Right: How the improved area could look.



Older people's care

The challenge: In older people's care settings, there has been a tendency for people to spend much of their time sitting passively in the TV room. Staff may be unaware of the benefits for older people of being outside and, as a result, encouraging residents out into the garden becomes a low priority.

The solution: The Creative Spaces Project in Cornwall creates opportunities for older people with dementia to improve their environments and play a more active part in society. The lessons learnt are being disseminated across all the properties managed by Cornwall Care.

Within this project, the concept of a timetabled 'activities programme' has been replaced by a new approach to activities that promotes independence. At Trevarna Care Home in St Austell, the

gardens are being redesigned with the residents' needs in mind to enable them to make their own choices about what they do outside.

The gardens are freely accessible, and outdoor 'activity stations' consisting of visual cues such as a pile of books in a quiet corner, or a collection of gardening tools on a 'work' table, all help residents to initiate their own activities, maintaining their independence and self-worth. In sites where independent access to gardens is difficult, more emphasis is placed on getting residents out and about by coach – to take part in the day-to-day activities of the local community in which they live.

Primary care

The challenge: In primary care settings, patients usually only attend for short appointments.

The solution: There may be scope to develop outdoor spaces to provide a pleasant place for people to wait, or even as a focus for activities which could include the wider community.

At the Culm Valley Integrated Centre for Health in Devon, a new approach to primary care is being trialled, as described in Case study 4.

Case Study 4: Culm Valley Integrated Centre for Health, Cullompton, Devon.

A new model of primary care for the 21st century

The Culm Valley Centre is at the core of an innovative national self-care project supported by the Department of Health. Incorporating a conventional GP surgery alongside a natural health centre, the design of the building – both inside and outside, and also of the grounds – emphasises a holistic approach to healthcare. There is a focus on 'wellness' rather than illness, and a focus on self-care, or prevention, rather than on medication.

A health facilitator on the staff acts as a gateway to a wide range of therapies including activities with a strong social or community angle, such as the Gardening Group, and the Community Interest Company (Sustaincare CIC) runs a café inside the centre. The café functions as a social hub, and patients visiting their doctor, health professional or the pharmacy stop for a drink and snack and find new ways to look after themselves as they do.

The Physic Garden has information on British medicinal plants that can be grown in patients' gardens, and has a bench where patients and staff can spend time relaxing outside in a calming environment.



In the Kitchen Garden food is grown for the café, to show people how food gets from soil to plate, to model how little space is needed to grow one's own food, and to encourage the use of seasonal produce.

Kitchen garden and produce.



Courtesy: Culm valley Centre for Integrated Health.

Many people have attended sessions held by herbalists on 'Making medicines from the Garden' and 'Winter Remedies'. The workshops encourage people to take responsibility for their health and are also social events, giving people a chance to meet their neighbours and build friendships.



Images courtesy: Culm valley Centre for Integrated Health.

Getting started: the project process summarised

There are four main stages in the design cycle:

1. Preparation.
2. Design and implementation.
3. Using and maintaining the new space.
4. Monitoring and review.

The 'review' part of stage 4 is likely to lead back to stage 1 again, as further improvements continue to be made.

Time spent on getting the process right will help to achieve a well-designed and sustainable outdoor space.

Most people think of the project process as being linear, with a beginning and end. However, a good process is cyclical, with the final monitoring and review stage leading naturally back to the beginning. Spaces change as planting grows and matures and only regular monitoring will identify whether parts of the layout need to be altered too.

The King's Fund programme, 'Enhancing the Healing Environment', has developed a successful model for 'team-based' projects, led by clinical staff and carried out in partnership with service users, and it is recommended that readers refer to this.

At Lynfield Mount Hospital in Bradford, service-users, staff, and relatives all worked together to transform an under-used space, with funding from the 'Enhancing the Healing Environment' programme.



Courtesy: The King's Fund Photo Library.

Stage 1: Preparation

Remember to:

- Assemble the client team.
- Develop a business case.
- Make sure sufficient resources have been allocated.
- Establish wider partnerships with other agencies. Joint Strategic Needs Assessment identifies 'the big picture' in terms of the health and well-being needs and inequalities of a local population, and projects should be informed by this process where possible.
- Check planning or legislative obligations and duties.
- Survey the whole site.
- Develop a design brief based on a strong 'vision' for the project.

Funding

Securing funding will be one of the most important tasks in this first stage, when attempting improvements to an existing space. Funding can come through donations and covenants, legacies and also 'gifts in kind' – such as the work by the Sellindge Gardeners' Association in the gardens of the Pilgrims Hospice in Ashford, Kent.

Fundraising events and even charity shops generate valuable income for facilities or groups registered with the Charities Commission, such as hospital 'friends' groups. Charitable status will make it easier to apply to grant-making trusts, of which there are many, though their criteria vary widely and often change from year to year.

Fostering partnerships with other local agencies (such as Wildlife Trusts) or just being aware of the local political climate may also open up funding opportunities.

At Broomfield Hospital in Essex, an ambitious programme of improvements to the surrounding woodland were funded by a Planning Obligation, as well as the Forestry Commission's English Woodland Grant Scheme, including a Woodland Assessment Grant (WAG), for ecological and stakeholder survey. Other sources of funding included the Chelmsford Borough Council Arts Fund. The hospital commented that a relatively small amount of money spent on woodland improvements made a significant impact in public perception.

There are a large number of funding sources for schemes like this which focus on tree planting, such as the campaign The Big Tree Plant. Details of these are available from the Forestry Commission and Woodland Trust.



Event for friends and supporters of Lambeth Community Care Centre.

Courtesy: Edward Cullinan Architects.

Stage 2: Design and implementation

Remember to:

- Appoint a designer. Landscape gardeners or garden designers may be able to help with improving smaller-scale existing spaces, but projects which are at a larger scale will need the support of a landscape architect. Landscape architects are trained to understand and improve outdoor spaces, and will have the listening and design skills to engage in a site-wide design dialogue.
- Brief the designer thoroughly.
- Check that they understand inclusive design, and have experience of designing for the particular users' needs in the project in hand.

By the end of the design stage, the initial 'vision' will have been honed by the team (including the designer) into the final 'product' – the scheme which is to be constructed.

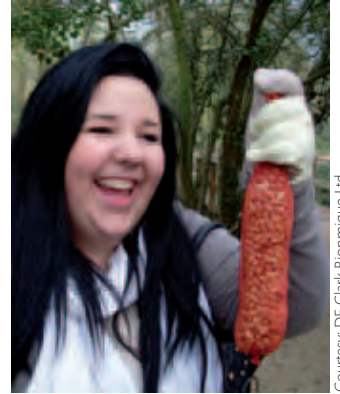
Implementation is likely to be undertaken by a contractor. However, on smaller schemes in some settings (primary care, residential settings) there may be opportunities for patients or staff to help with elements such as planting.

Tree planting in Cornwall.



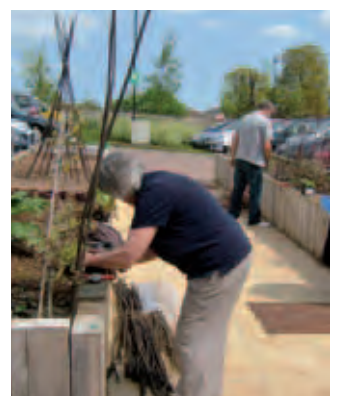
Courtesy: NHS Forest.

Volunteers helping with implementation work.



Courtesy: DF Clark Blomnigie Ltd.

Culm valley centre planting by patients.



Stage 3: Using and maintaining the new space

Remember to:

- Organise a launch event or public opening.
- Thank everyone involved in the project and publicise the new space to potential users.
- Take any further opportunities during the year to organise small events or activities in the new space involving staff, patients and visitors.
- Monitor how the maintenance is progressing, especially early on. Perhaps the litter bins need emptying more frequently, or there is extra scope for patient or staff involvement in simple tasks such as picking apples in the autumn.
- Deal with issues such as smoking or litter constructively (not by simply preventing access).
- Make sure administrative and maintenance staff are educated about the value of outdoor space, and the importance of maintaining accessibility, to ensure spaces remain unlocked.

All improvements which lead to spaces being used by more people will usually result in increased maintenance needs and potential costs.

These could be met by finding out whether the local horticultural college, horticultural society or larger companies with community volunteering schemes could help. Also, the Wildlife Trusts and the BTCV (British Trust for Conservation Volunteers) have branches all over the UK and will take on a variety of projects, especially in a natural or semi-natural landscape.



At Broomfield Hospital in Essex, special efforts were made to involve young people from the local community in implementing work on site and in celebrating its completion.

Stage 4: Monitoring and review

Remember to:

- Carry out a post-occupation evaluation study, to check whether there is anything about the space that could be improved. Knowing what has worked well also has important value in terms of lessons to replicate elsewhere.
- Review the space annually to check the development of the landscape as it matures. Tree stakes and ties may need adjusting and sometimes groups of trees need to be thinned to give better specimens the space to grow. It will also be important to check and maintain plant health, especially after periods of extreme weather.
- Continue to check weekly that the new spaces remain accessible, and are not locked unnecessarily.

The Verwood Opportunity Centre Project described in Case study 5 shows how a good process results in a successful project.

A well-planned space for everyone to enjoy

In 2009 staff at the Verwood Opportunity Centre found that their clients, people with physical and learning disabilities, wanted to feel more integrated with the local community and also have the chance to do meaningful work. This resulted in the creation of the Sensory Garden, a new wildlife-friendly garden next to the Opportunity Centre and neighbouring Community Centre.

Stage 1: Preparation

The Sensory Garden project is an excellent example of partnership working:

- East Dorset District Council donated the land.
- Dorset Wildlife Trust helped co-ordinate the design process and agreed to look after the management and maintenance, once the garden was completed.
- The Opportunity Centre promised to build usage of the space into their service users' daily activities.
- The neighbouring Community Centre offered general support to the project.
- Private companies, including a local landfill operator, provided the funding.
- The local Emmanuel School helped with the planting during the implementation, as well as setting up a Tuesday gardening club.

Stage 2: Design and implementation

The garden is laid out in the form of a spiral, containing raised beds designed to appeal to the senses. Tactile scented planting with a wide variety of foliage and leaf colour make the site equally attractive to everyone. Implementation was carried out by a local contractor but clients of the Centre helped with smaller elements, such as making the signs for the sensory beds. Particular attention was placed on making the garden easily accessible. For example, the path around the garden was made using materials enabling wheel chairs, walkers and pushchairs, to move freely.

Raised beds laid out in the shape of a spiral.



Courtesy: Noel Bergin/Dorset Wildlife Trust.

Each raised bed focuses on a different 'sense'; such as this one celebrating the sense of Taste.



Stage 3: Using and maintaining the space

Over the years usage of the space has increased and many of the Opportunity Centre clients now regularly choose to spend time outside in the Sensory Garden rather than indoors. Shane Carter (a service user from the Centre), said

'We are really able to get involved with the garden, helping with the plants, building nest boxes, even the signs were wood burned by us. It's been great to work in this garden, helping to create something for the community and us to enjoy.'

The Dorset Wildlife Trust continues to maintain the site, monitoring the planting carefully as it matures.

Volunteers, staff and service-users all work together in the garden. Being out in the fresh air often helps de-fuse moments of tension as they arise.



Stage 4: Monitoring and review

Project evaluation has demonstrated that the Sensory Garden project has helped people with physical and learning disabilities to engage with the community and agencies, breaking down social barriers. Noel Bergin, Conservation Officer at Dorset Wildlife Trust, said:

'The idea is that the different sections of the garden will be ongoing projects for the Opportunity Centre, schools and other community groups to look after. Hopefully, not only will it be a wildlife haven within the town, but visitors will leave with ideas on how to improve their own local area for wildlife.'

Working with design elements

The design elements listed below will all be useful in creating therapeutic spaces:

1. Planting
2. Trees
3. Entrances, paths and boundaries
4. Site furniture
5. Art
6. Water

Developing a layout based on the design principles set out earlier and thinking through the practicalities of the whole project process will provide a good foundation for any scheme.

Experienced designers will be able to combine the various elements such as planting or paths skilfully, but it is helpful for those briefing them to have some understanding of these too. In this way, a scheme can be created which has a sense of place and also meets clinical and other needs. The most successful schemes are those where the client takes a strong lead and where the designer and client work closely together.

This section provides an overview of some of the most useful elements used in designing outdoor spaces.

Hospice garden, Salisbury Hospital: design elements working in harmony to create a tranquil place



Courtesy: Peter Ursem.

1. Planting

Planted spaces form a truly restorative environment. Good quality planting highlights the passing of the seasons, appeals to all the senses, helps to attract wildlife, and provides something new and different to look at every day throughout the year.

Vegetables growing in the Child and Adolescent Mental Health Unit at Great Ormond Street Hospital are seen as having therapeutic value for young people with eating disorders.

Lots of hospitals have outdoor courtyard spaces, but those which are gardens with lush plants rather than just paved areas are far more beneficial to people using them.

Vegetables growing at Great Ormond Street Hospital.

A rich variety of planting means something new to look at every day.



Just sitting in a planted area can be beneficial, but sometimes the extra effort involved in focusing on a gardening task can help restore a fatigued or troubled mind. At the Bromley by Bow Centre in London the flower or cutting garden is used for horticultural therapy; the story of one volunteer's experience is described below.

'I had been working as a mental health nurse and drama therapist in the East End for several years – it was a busy and stressful job, but I enjoyed it. Unfortunately, though, I suffered bullying and harassment at work, and it affected my mental health ... I was unable to work any more and went off sick, unwell with depression.

In April 2007, my GP suggested I try volunteering at the Bromley by Bow Centre. Initially, I was only doing a few hours a week but, since January 2010, I have been on a contract of employment for 35 hours a week in the cutting garden. It feels great to be working at this level again after so many years. Sometimes I cannot believe how much my life has changed in the last three years. When I was ill I couldn't imagine being able to work again. The work involved in growing and nurturing plants is amazingly satisfying and therapeutic, but you don't have to work in a garden or green space to benefit from it. Just walking through a park can improve your well-being and peace of mind.' (Lisa, member of the PoLLEN project, Bromley by Bow).

Things to remember

- Choose plants to emphasise seasonal change, and build anticipation of things to come and allow people to notice the passage of time – evergreen schemes tend to be lower-maintenance but will not achieve this.
- Scented and brightly coloured flowers and leaves can be enjoyed by those who are partially sighted, as well as being attractive for all users. Sense of smell is closely associated with the

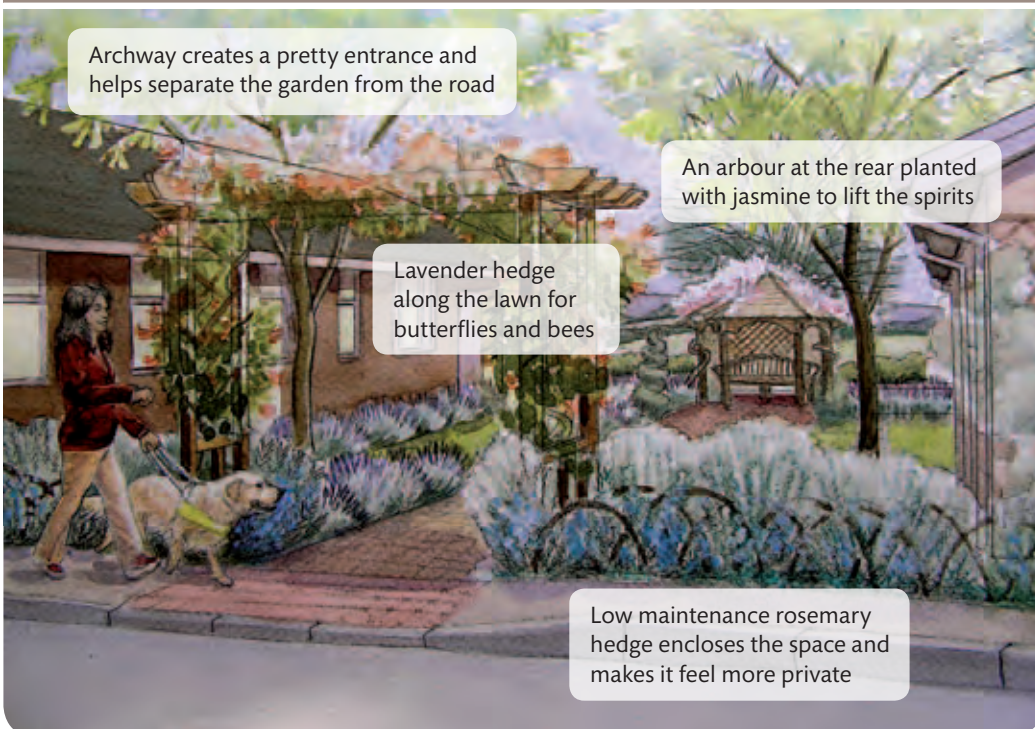
part of the brain dealing with memory and feeling, so scents can call up memories and powerful responses almost instantaneously, which is particularly helpful for those with memory loss.

- Shrubs should be pruned carefully to emphasise their natural form. This way the space will look well cared for – the subliminal message being ‘if the garden is well looked after, I will be ...’.
- Food-growing is a good option, especially if the kitchen staff can use what is grown. In long-stay or residential settings people will be able to experience a full growing season, but even in day centres they can join in with whatever is happening at that point in the horticultural year. A good activities programme can focus on food-growing – eating fruit crumble, or painting colourful berries.

At Bromley by Bow Centre, local residents find that visiting the Flower Garden raises their spirits.



This left-over space between buildings feels bleak and exposed, but with the addition of trees and scented shrub planting it could become a space to relax in, between appointments or after a visit.



Above: Existing view.
Left: How the improved area could look.

2. Trees

Trees have a special place in the design of outdoor spaces and they make distinctive places which endure. They are alive and dynamic, with enormous presence – often inspiring a strong emotional response in people, such as the single magnolia tree in blossom, at Salisbury District Hospital.

Native trees are especially good for wildlife. Trees can also help screen unsightly views or noisy traffic – important, when noise is often seen as reducing the therapeutic value of a space. They also help to define spaces.

Large canopy trees of all types provide shade in summer and shelter in winter. The NHS Heatwave Plan is updated annually and acknowledges the role trees can play in modifying climate and, in particular, reducing air temperatures.

Even sitting under a solitary tree can provide a useful healing space.

At Salisbury District Hospital there is space in the small courtyard for a single specimen Magnolia, laden with flowers every spring.



'I worked for years in the Mental Health services in Taunton ... when we moved to the new offices, we had a small area of grass with a bench under a large overhanging tree. There was pressure to make this area into a car park but we successfully resisted this, because we felt it was so important to have this piece of natural space.'

There were times when particular clients could not cope with coming into the building and sessions took place outside. I remember one young man who was unwell, very distressed and also angry. For a time he called to see his worker at least once a day. In the reception area he caused disruption to others and his worker took to meeting him outside on the bench, where the client did not feel so hemmed in.’ (Former mental health services worker, Taunton)

Whether it’s glowing autumn leaves or the spring sun lighting up a pussy willow catkin, each in their own way help to transport the visitor away from stress and anxiety.



The NHS Forest plans to plant one tree for every NHS employee, as part of the long-term aim to make the NHS more sustainable. The planting schemes can be as small as a single fruit tree or as large as a new piece of woodland. Individual specimen trees offer high visual impact, so are often especially useful for tight urban sites where space for more extensive areas of planting may not be available.

On larger sites woodland planting for biomass boilers may help save energy costs.

Things to remember

- Plant the right tree in the right place. Trees grow!
- A planting strategy will ensure that new trees, including commemorative ones, can be located where they will help to create attractive and usable spaces.
- Fruit trees can be useful for smaller spaces and offer good seasonal interest. Orchard planting may also be a good way to make short-term use of a site which is earmarked in the long-term for re-development. At the Royal Edinburgh Hospital, staff harvest fruit from their old orchard for patients.
- In high security mental health settings, trees can be planted in areas where there will be access under supervision. Tree planting can be used to soften and screen unsightly security fences.
- Some people find dark woodland oppressive; having open sunny glades and generous paths will increase the woodland flowers and enhance the sensory aspects of being in a wooded space.

3. Entrances, paths and boundaries – connecting the site

Gateways and entrances provide important cues for people – they say ‘come in, you’re welcome here’. Time spent on planning a comprehensive network of connecting paths, and on developing an appropriate specification and then making sure they are properly constructed, will help create a site where people can more easily find their way around.

Everyone, and especially those with circulatory and respiratory problems, benefits from exercise – and more interesting routes will provide more of an incentive. Signposting can indicate the distance covered and calories used.

Path surfaces should be chosen to reflect the context, with ‘softer’ materials for an informal setting. Primary routes should be designed to allow everyone access, including those with restricted mobility, but many people want to experience the natural environment with all that implies and do not expect easy access everywhere.

Walking can itself be therapeutic, and the contemplative approach to walking used in the Labyrinth Garden at the Pilgrim’s Hospice in Canterbury is one which many people of all faiths (and none) find helpful. The slow, steady, regular walking pace tunes in with the heart-beat and this helps induce a calmer frame of mind and often, as a result, a lowering of blood pressure.

Well designed entrances make people feel welcome as they arrive.



At St.Catherine’s in Doncaster, in-patients who have access to the grounds know they can safely walk along the red tarmac paths.



'Each person finds their own way round the labyrinth and there is no right and wrong way. In walking, the analytical left side of the brain gives way to the more intuitive right hand side and we are led by the path away from stressful thoughts into stillness.' (Lizzie Hopthrow, Chaplain, Pilgrims Hospice)

Pilgrim's Hospice, Canterbury: The Labyrinth garden.



Boundaries do not need to be oppressive and threatening, but can contain and enclose like comforting arms. These can include natural boundaries such as landform or changes of level, planted boundaries such as hedges, and traditional walls. Boundaries are an important part of the site design and should be chosen to complement and enhance the site.

For 'secure' boundaries, fine mesh fencing is more visually permeable than vertical railings and feels less restricting. The visual impact of tall fencing can be reduced, if necessary, by planting on either side.



Fine mesh fence at St. Catherine's, Doncaster.

Courtesy: RDaSH NHS Foundation Trust.

Things to remember

- Make sure that entrances are wide enough for those with special mobility requirements, and that a tactile element is included to indicate the threshold to those with sight impairment. Using a range of surfacing materials can also help those who are sight impaired.
- Path design should generally follow the Accessibility Standards developed by the Fieldfare Trust as part of the BT Countryside for All project, though it may be appropriate to diverge from these in some situations.
- Wheelchair or scooter users will need sufficiently wide paths with a well-compacted surface, shallow gradients, and level access from the building.
- Special coloured or textured surfacing can help some users find their way round a site independently. Such surfacing has been used at St Catherine's Hospital, Doncaster.

4. Site furniture

Site furniture includes the free-standing elements which 'furnish' a site – for example seating, litter bins, lighting and signs. Good site furniture should be chosen and located to meet the particular needs of those using the space. For example, the height and depth of seats can make a big difference to how usable they are by people with specific needs: do they need to have arms, or a back-rest, or are they just a 'perch'?

Signs are often the first thing people see and designing them so they look friendly will help make everyone relax and feel welcome.



Courtesy: Bromley by Bow Centre.



Site furniture is usually included initially for functional reasons, but careful design can add an extra dimension – helping create items full of character which provide extra interest in a space. The furniture can also enhance the 'sense of place' – very important in settings where people are effectively confined, either by their own frailty or illness, or for others' safety.

Bespoke items help spaces feel less institutional. They may be more costly but can be tailored to their location and to users' specific needs, so may actually offer better value for money. Some bespoke items can be very simple – at the Royal Edinburgh Hospital in-patients painted flower-pots by hand to cheer up the patio and seating areas.

In facilities used by children and young people it is vitally important to cater for play – including both natural features that can be played with (such as sand, water and grass mounds) and purpose-built play equipment where appropriate (such as the seating, chosen specially for each site). Children with impaired mobility still like to enjoy the same activities as able-bodied children, and, for some, climbing nets in a play space will provide a more enjoyable way of strengthening muscles than physiotherapy indoors.

Woven hazel tree seat at Fant Oast Unit, Kent.



Things to remember

- Remember to include shading and shelter – helping people to cope with photosensitivity or just to avoid a shower of rain.
- Allow space next to a seat for a wheelchair or electric scooter. Wheelchair users and those who find it difficult to bend down also benefit from 'raised' features, which should be designed to appeal to others too (e.g. by designing the edge so that it makes an informal seat).
- In some residential settings (e.g. in care homes) where residents may want to use the space in the evenings, lighting will help ensure the space is both attractive to look at from inside, and also safe to use after dark.



Seating and lighting café courtyard, Newham Hospital.



Seating for Hereford County Hospital.

Courtesy, Petter Southall.

- Signs need to be approachable and welcoming. The ability to make an informed choice (e.g. to follow or avoid a route with rough, bumpy paths) is crucial, and appropriate signs at the beginning of routes help this choice to be made.
- Seating should be placed where someone would actually want to sit – enclosed to the rear; with something attractive to look at, and off the path to avoid obstructing other people.
- Seating should preferably be wooden with arms and backs (not steel or concrete), but can also be an artwork in its own right, like the example above.



In the park behind Bromley by Bow Health Centre, a large sheep doubles as a seat and a sculpture, and at Fant Oast in Maidstone, a Tipi makes a good social space.

5. Art

Art in healthcare settings helps to provide a place of 'respite' for everyone.

Art can provide a focal point for a space and helps engage the attention. As a bespoke item it may have particular and unusual tactile or sensory qualities; it can offer surprise, encourage reflection, and even provide humour. It also helps to make a space feel less institutional. Good quality, carefully located artworks can greatly enhance a healthcare setting and provide an incentive both to venture outside and to spend more time outside when you get there.

The experience of arts managers suggests that more people respond positively to artwork which is representational rather than abstract, where conventional skill is in evidence, and in particular where images of nature are concerned. However, more abstract work can also provoke interest and positive responses – such as the work outside the chapel at Dorset County Hospital, based on the symbolism of the circle, and considered especially appropriate for this non-denominational space.

Actually creating art can be another form of focused engagement or purposeful activity, like gardening – perhaps it is even the adult equivalent of children's play. In some settings artists work with patients and even staff, often outdoors, to create items that can be exhibited inside or outside the building.

Things to remember

- Artworks should respond to the opportunities of a specific site. By reflecting what makes a space special, their work will enhance the 'sense of place'. Art can also be especially helpful in urban areas, adding character where a sense of place may be less apparent.
- In spaces which are easily accessible and therefore have strong potential for therapeutic benefits, artworks should be designed so as to create inviting, habitable spaces and to support and encourage access.
- Some spaces might be inaccessible but are still overlooked by wards and corridors above. These offer special opportunities to install artwork that might not be suitable for publicly accessible areas.

Reminiscent of seed-pods, this artwork adds extra interest to an inaccessible hospital courtyard.



Courtesy: 4D Landscape Design.

Dorset County Hospital.

Dorset County Hospital (DCH) in Dorchester employs art to help humanise the outdoor spaces, making the hospital feel less institutional.

The artworks provide useful orientation points in what is quite a complex site arranged over different levels.

They also help to create a distinct character for each garden area and add extra interest to spaces which might be too shady to spend very long in, or which are inaccessible and designed to be viewed only from inside the building.



Outside one of the main entrances, this kinetic structure dances unpredictably to the Dorset sea breezes. The artwork transforms a small space in a heavily trafficked area into somewhere pleasant to sit and also helps new visitors orientate themselves as they arrive on site.



There is a dazzlingly wide variety of art at DCH, from temporary installations such as the willow sculptures shown here, to this little dog above by Elizabeth Frink, a former patient at the hospital.

6. Water

The sound of running water or the sight of a frog poised motionless at the pond's edge can provide a focus for a garden space all year round, with the sensory qualities appealing to people of all ages and abilities. Even a 'bubble' fountain is inviting to the touch, and as these do not usually involve areas of deeper water, may raise fewer health and safety issues.

'I like sitting in the garden, I was watching the blackbird washing himself in the fountain today, first one leg, then the other, then his wings, his head! Oh it does give me a laugh ...' (Resident at Harbour House Residential Home, Bridport, 2010)

Frog in wildlife pond.



Resident at Harbour House Residential Home, Bridport.

At Springfield University Hospital in London, staff find it helpful to take patients out into the extensive grounds, which include a fish-pond, as described below by the Activities Worker:

'Patient K was deaf, had learning difficulties and a mental health problem related to behaviour issues. A residential place was being sought which could meet his needs, but because of his behaviour it was difficult to place him anywhere ...'

Patient K liked to watch the fish and to feed them, and as a way of building up a relationship with him he was often escorted to the garden so as to feed the fish. He was aware that he would not be



Formal fountain and fishpond, Springfield Hospital.



taken out to the garden to feed the fish if his behaviour was not under control, and he began to modify his behaviour so as to be able to be taken out to feed the fish. Over time a rapport was built up with him so that he was able to teach some of the staff to sign so as to communicate better with him. His behaviour improved so much that a specialist residential place was found for him, and which he was accepted for.'

Even those who are profoundly disabled can appreciate the spray of water on their skin, as at The Children's Trust in Tadworth, Surrey.

'Our sensory fountain has been a great educational tool for the learners at The School for Profound Education. It has an incredible amount of multi-sensory benefits, from the sight of the water arching vertically over the top of the learner as they walk or are pushed in their wheelchair along the path between the two jet-streams ...

The water can respond to their voices/vocalisations as they communicate using the 'talkie' flowers which project their sounds across the fountain ... the fountain is a very social space – classes have been held there, music making sessions, as well as teddy bears' picnics! It is also ideal as a calming area for any learner needing a bit of time out.' (Steve Snook, Teacher, School for Profound Education)

Courtesy: The School for Profound Education.



Interactive fountains at The Children's Trust, Surrey.

Things to remember

- Ponds should be designed for either wildlife or fish – not both.
- The sound of water can be very useful in masking noise, which has been proven to have a very negative impact on the perceived therapeutic value of a space.
- Water features should also be designed as simply as possible to keep maintenance costs down and reduce water usage.
- People often assume that running water is suitable for drinking, so if the feature is easily accessible and/or unsupervised, water should be fed from the mains supply.
- Outbreaks of Legionnaires' disease are usually associated with cooling towers, evaporative condensers and hot and cold water systems. The risk of contracting the disease from most ornamental water features such as ponds or fountains is likely to be low and can be minimised by design (e.g. by avoiding the presence of shallow, stagnant water). A specific assessment of risk will be required, taking into account the actual design and location of the feature (*Legionnaires' disease: a guide for employers*, HSE).

Summary

All of the design elements described above have the potential to add a new dimension and extra interest to spaces designed for a therapeutic purpose. The Chalkhill Unit in Sussex includes many of the design elements mentioned above and represents a highly creative approach to design of both internal and external spaces on the site.

Case Study 6: Chalkhill Unit, Princess Royal Hospital, Haywards Heath, Sussex.

The Chalkhill Unit caters for children and young people with acute mental health problems, and has been designed to reflect nature, using the surrounding site as a palette. Members of staff are convinced that the new unit is helping to speed the recovery of the youngsters, as they appear to be recovering more quickly than similar patients did in the former building.

The process involved collaboration between architects, interior designers and landscape architects to create a facility with a feeling of safety but also freedom and tranquillity.

Workshops were conducted with those who were going to use the new building, to explore their attitudes to themes, images and colours. The youngsters chose nature as the general theme for both the interior and the outside spaces and gardens, as they felt that woodland and seaside were places they wanted to be. Woodland was used as an important unifying design element; for example, the design of the carpets, curtains and wall coverings was based on a pattern of leaves.

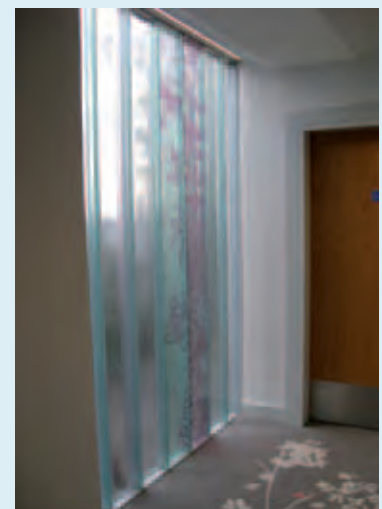
Design elements

Trees and planting: The original native pine heathland encloses the site to the north and there are expansive views out to the south through the pines towards the South Downs. Pine trees close to the building have been preserved; the glass entrance doors are etched with images of the same trees. Neat miniature pines give a crisp tidy miniature landscape to the front entrance, and within the gardens, the planting is redolent of seaside with grassy dune-loving plants.

Entrances, paths and boundaries: Gates and boundaries are functional, attractive and often wooden, making them feel natural and less intrusive. Pathways are simple, either tarmac or decking, with large timbered wooden seating and tables such as you would find at the seaside.

Site furniture: Within the inner courtyard, the theme of nature continues. There is a wooden boardwalk running along in front of jungle-like planting of large-leaved, exotic plants, leading to a beach. In golden concrete there are ripples just like the ripples in sand on a sea-swept shore. Huge rocks provide seating.

The surrounding pine trees are visible from everywhere on the site and have influenced the design of the interiors in particular.



Art and water: Impressed into the sand are images of leaves and sea creatures. They are subtle and take some finding. A three-dimensional ceramic mural of streams, animals and plants adds colour and a rich texture to a wall. One rock has been drilled and piped to provide a safe 'wet rock' water feature. It helps to create an intricate fantasy landscape with tiny treasures to be discovered by quiet exploration.



The garden areas are designed with a quiet simplicity which creates a calm, peaceful atmosphere. Natural materials predominate, creating tactile surfaces.

All the elements of this unit, through careful consultation and design, combine to provide a kind of 'escape' for the inhabitants of the unit, who are often confined in more ways than one. Their function was to act as a portal into an ethereal world through which the children's minds could wander, unbound by tiresome realities.

Surfaces imprinted with leaves and other objects from the natural world act as reminders of the seaside, and reward curiosity by inviting exploration.



Feeling inspired? How to get started!

Why design a healing environment? This will indicate your **Objectives**.

- Are there specific people who would benefit, such as stroke or mental health patients?
- Improvements to the staff working environment?
- Making the site more inviting and accessible to the wider community?

Where is your open space? This will indicate your potential **Resource**.

- Walk around your site, explore the perimeter, courtyards, car parks and roof spaces.
- Find a site plan and annotate open spaces.
- Get a 'bird's-eye' view, with online aerial mapping tools.

What is already there in your open space? This will indicate its current **Value**.

- Is it paved or planted? Are there any trees or other interesting features of note?
- Is it 'open access' or locked, and are there access routes through your space?
- Is it next to wards or offices, or specific services?
- Is it a place where people like to gather or is it normally empty?

Who is interested, or could be engaged? This will indicate your **Team**.

- Think of medical and ancillary staff who might use open spaces.
- Think of patient groups who would be capable of participating, visitors and friends groups.
- Support of the senior management team, and the facilities or estates managers, will be essential for the project to succeed.

How do you begin? This will indicate your **Plan**.

- Use your local Strategic Health Needs Assessment as a lever for implementing green space/tree planting proposals.
- Get your team together and brainstorm what could be done.
- Consider sources of funding.
- See what other places are doing, visit the NHS Forest website.
- Make sure you communicate your ideas to your colleagues and the wider public.

When will it happen? This will indicate your **Timetable**.

- You do not have to do it all in one go: consider phasing in manageable blocks.
- Start with the easy bits, maybe bird-boxes or planting some beds.
- Tidying up the litter immediately makes a place look more cared for.
- Simply 'signing' existing open spaces, so people know where they are, and what they are called, would help to make the most of what you already have.

Getting started might be as simple as planting a few fruit trees, or some bulbs, or allowing some of the grass to grow a little longer. An example of a possible project like this is shown opposite.

Improving an area on a hospital or health centre site needn't be complicated or expensive. This scheme would include some new cherry trees and bulb planting, along with a reduction in frequency of mowing to allow the bulbs time to flower and to establish.



Before and after of improved hospital area.

Further reading and useful sources of information

Forestry Commission publications

- A marvellous opportunity for children to learn: A participatory evaluation of Forest School in England and Wales (FCRP009)

For ordering information and details of this and other Forestry Commission publications, visit the online publications catalogue at www.forestry.gov.uk/publications

Forestry Commission websites

- For information on **the case for trees in development and the urban environment**:
www.forestry.gov.uk/thecasefortrees
- For research information on the **social aspects of forestry**:
www.forestry.gov.uk/fr/peopleandtrees

The following reports are available to view and download from this website:

- Trees and woodlands, nature's health service
- Urban health and health inequalities and the role of urban forestry in Britain: a review
- A sort of magical place: people's experience of woodlands in northwest and southeast England

Other publications

British Medical Association

- **The psychological and social needs of patients**, 2011

BTCV

- **Green gym national evaluation report**, 2008

CABE

- **Future health, sustainable places for health and wellbeing**, 2009
- **The role of hospital design in the recruitment, retention and performance of NHS nurses in England**, 2004
- **The value of public space**, 2004

Department of Health

- **Heatwave Plan for England**, 2010
- **NHS health and well-being: Boorman Review**, 2009

Faculty of Public Health

- **Great Outdoors: how our Natural Health Service uses green space to improve wellbeing**, 2010

Forum for the Future

- **The health system in 2025, a vision of health and sustainability in England**, 2009

Health and Safety Executive

- **Legionnaires' Disease: a guide for employers**, 2006

Health Research Forum

- Sunlight Robbery: Vitamin D and Public Health, 2010

King's Fund

- Enhancing the Healing Environment, a guide for NHS trusts, 2004
- Improving the patient experience, celebrating achievement: Enhancing the Healing Environment Programme 2003-2005
- Improving the patient experience, sharing success in mental health & learning disabilities, 2008

MIIND

- Ecotherapy - the green agenda for mental health, 2007

NHS

- Saving carbon, improving health - update, 2010. Sustainable Development Unit.
- The architectural healthcare environment and its effects on patient health outcomes, 2004

RSPB

- Natural thinking: investigating the links between the natural environment, biodiversity and mental health, 2007
- Natural Fit: can green space and biodiversity increase levels of physical activity? 2004

Scottish Natural Heritage

- Health and the natural heritage - the evidence base, 2009

Sustainable Development Commission

- Health, place and nature: how outdoor environments influence health and wellbeing - a knowledge base, 2008

The Center for Health Design

- A visual reference for evidence-based design, 2008

The Scottish Government

- Good places, better health, 2008

Trees and Design Action Group

- No trees no future, 2010

US Department of Agriculture, Forest Service, Northern Research Station

- Restorative commons: creating health and well-being through urban landscapes, 2009

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- Architecture+Design Scotland: www.ads.org.uk
- ArtCare, Salisbury: www.artcare.salisbury.nhs.uk
- Biodiversity Action Plan (UK): www.jncc.defra.gov.uk
- Building Better Healthcare (provides the healthcare building community with the latest news, and guidance on healthcare estates and facilities): www.bbhealthcare.co.uk
- BTCV (British Trust for Conservation Volunteers): www.btcv.org
- Centre for Sustainable Healthcare: www.sustainablehealthcare.org.uk
- Design Council (for information on Commission for Architecture and the Built Environment, CABI): www.designcouncil.org.uk
- Enhancing the Healing Environment: www.enhancingthehealingenvironment.org.uk
- Fieldfare Trust (promoting countryside access for disabled people, and the Access for All Standards): www.fieldfare.org.uk
- Forestry Commission: www.forestry.gov.uk
- Forestry Research: www.forestry.gov.uk/forestresearch
- Glasgow Homoeopathic Hospital: www.ghh.info
- Greenspace Scotland: www.greenspacescotland.org.uk
- InformedDesign (evidence-based design tool): www.informedesign.umn.edu
- KIDS (works with disabled children, young people and their families): www.kids.org.uk
- Living Medicine (working to connect people and plants for health): www.livingmedicine.org
- Maggie's Cancer Caring Centres: www.maggiescentres.org
- NHS Forest: www.nhsforest.org
- OPENspace (research centre for inclusive access to outdoor environments): www.openspace.eca.ac.uk
- Outdoors & Health Network: www.outdoorshealthnetwork.co.uk
- Peckham Experiment (a study into the nature of health): www.thephf.org
- Planetree (an organisation facilitating efforts to create patient centred care in healing environments): www.planetree.org
- Quiet Garden Movement: www.quietgarden.org
- Reforesting Scotland (network involved in restoring Scotland's forest cover and culture): www.reforestingscotland.org
- Sensory Trust (creating inclusive environments): www.sensorytrust.org.uk
- Social Care Institute for Excellence (an independent charity improving the lives of people who use care services by sharing knowledge about what works): www.scie.org.uk
- The Big Tree Plant: <http://thebigtreeplant.direct.gov.uk>
- Therapeutic Landscapes Network: www.healinglandscapes.org
- The Wildlife Trusts: www.wildlifetrusts.org
- Walking for Health: www.wfh.naturalengland.org.uk
- Woodland Trust: www.woodlandtrust.org.uk
- World Health Design (subscription based journal and web resource, promoting excellence in the field of design and health): www.worldhealthdesign.com

Appendix 1 – Researched sites

Alder Hey Children's Hospital, Liverpool
Argyll and Bute Hospital, Lochgilphead, Argyll

Bromley by Bow Centre, London
Broomfield Hospital, Chelmsford, Essex

Castle Hill Hospital and Oncology Unit, Hull
Chalkhill Unit, Princess Royal Hospital, West Sussex
Chelsea and Westminster Hospital, London
Creative Spaces Project, Cornwall (Cornwall Care)
Culm Valley Integrated Centre for Health, Devon

Dorset County Hospital, Dorset

Enniskillen Hospital, County of Fermanagh, Northern Ireland

Fant Oast Adolescent Unit, Kent
Forth Valley Royal Hospital, Stirlingshire

Glasgow Homoeopathic Hospital (Gartnavel General Hospital site), Glasgow
Great Ormond Street Hospital, London

Harbour House Residential Home, Dorset
Helen & Douglas House, Oxford
Hereford County Hospital, Hereford
Hull Royal Infirmary, Hull

Joseph Weld Hospice, Dorset

Lambeth Community Care Centre, London

Maggie's Cancer Caring Centre, Charing Cross Hospital, London
Maggie's Cancer Caring Centre, Oxford
Maggie's North East, Newcastle

Newham University Hospital, London
Ninewells Hospital, Dundee
Northern General Hospital, Sheffield

Orchard Respite Centre, Blackrock, Co. Dublin

Pilgrims Hospice, Ashford, Kent
Pilgrims Hospice, Canterbury, Kent
Pilgrims Hospice, Thanet, Kent
Pulross Centre, London

Queen Elizabeth Hospital, Woolwich, London

Royal Edinburgh Hospital, Edinburgh
Royal Hallamshire Hospital, Sheffield

Salisbury District Hospital, Wiltshire

School for Profound Education, The Children's Trust, Surrey

Second Rhondda Hospital, Llwynypia, Wales

Springfield University Hospital, London

St Catherine's, Rotherham, Doncaster, and South Humber NHS Foundation Trust, Yorkshire

The Children's Trust, Surrey

Tiverton and District Hospital, Devon

Todmorden Health Centre, Lancashire

Trevarna Care Home, Cornwall

Verwood Opportunity Centre, Dorset

Wandsworth Recovery Centre, Springfield University Hospital, London

Warneford Meadow, Oxford

Whitfield Rural Activity Centre, Dorset

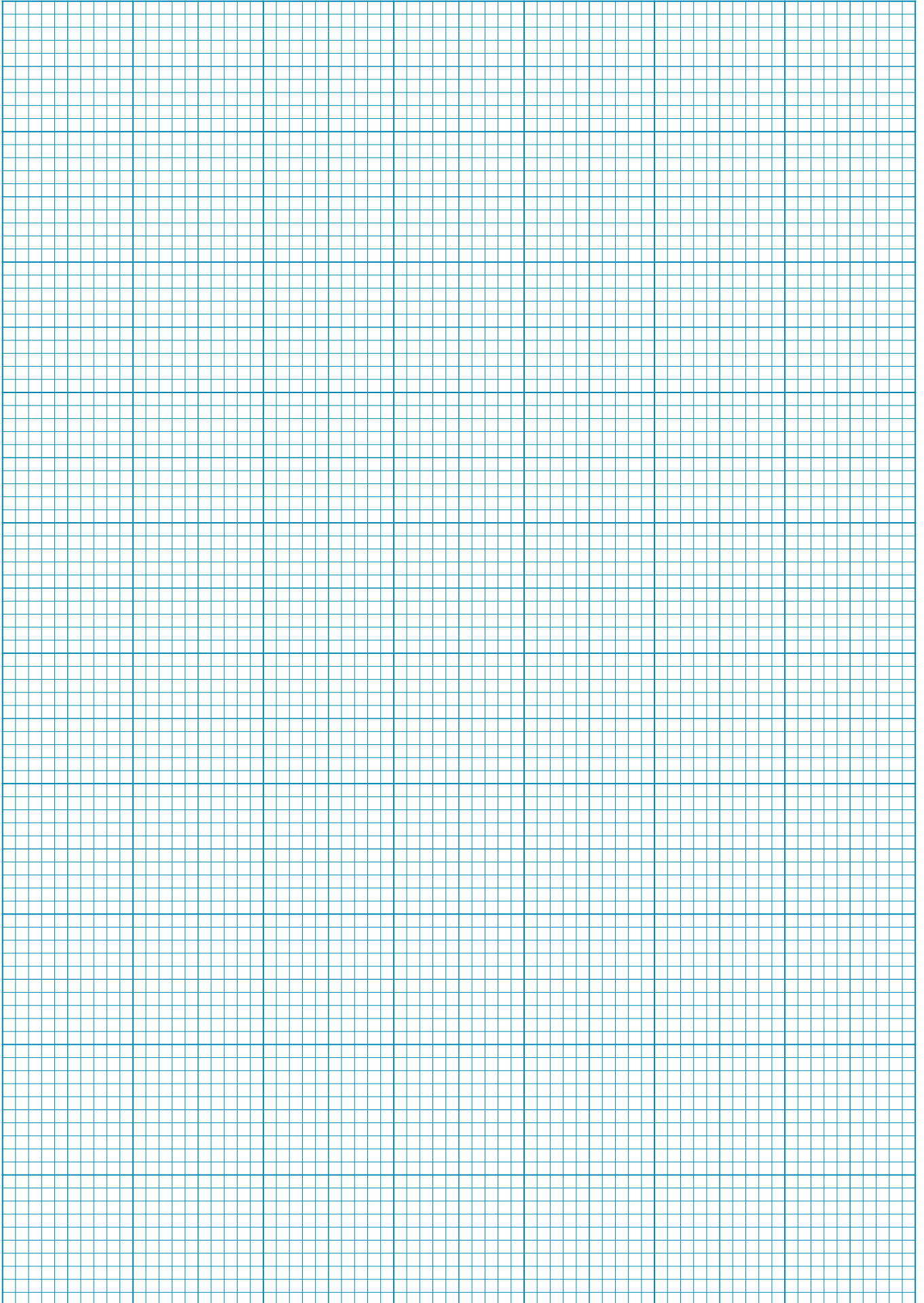
Williton Community Hospital, Somerset

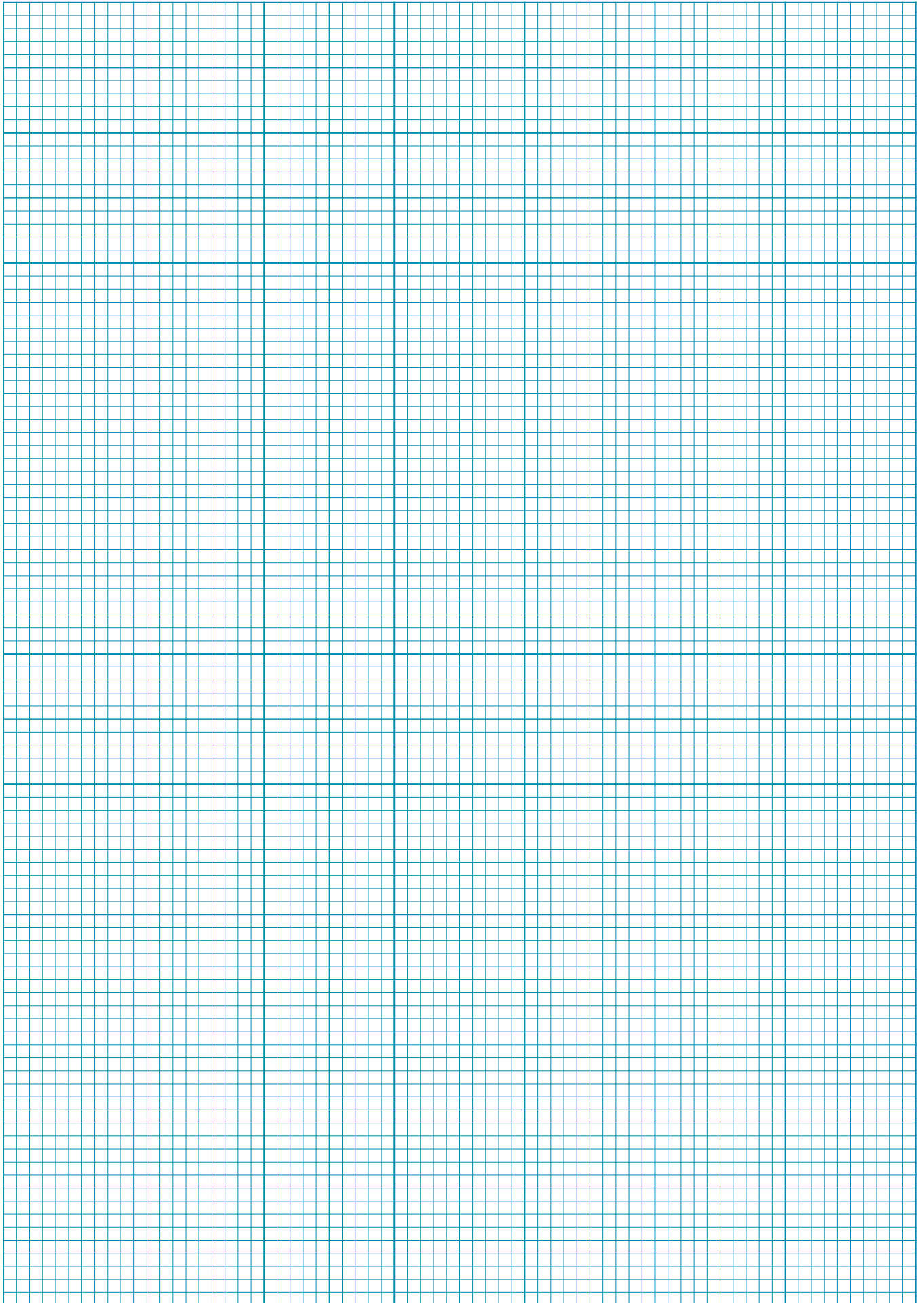
Appendix 2 – Sample risk-benefit assessment for a community hospital

Should patients with dementia be allowed free access to the garden?

Issue	Commentary	Evidence
Health benefits	<ul style="list-style-type: none"> Greater mental stimulation from access to outdoors helps delay further mental deterioration Continuing practice in walking over different surfaces and textures prolongs mobility Access to sunshine increases manufacture by body of Vitamin D and this has consequential beneficial effects with regard to other conditions 	<ul style="list-style-type: none"> Everyday experience and observation Medical literature
Risks	<ul style="list-style-type: none"> Risk of falls Risk of minor injuries Lesser risk of more serious injuries, for example long bone fractures Risk of claims, litigation and loss of reputation 	<ul style="list-style-type: none"> Everyday experience and observation Information about claims from colleagues and professional networks
Expert views	<ul style="list-style-type: none"> Health and safety department have inspected site and found it to be free from obvious trip hazards Positive attitudes from occupational therapy and physiotherapy staff 	<ul style="list-style-type: none"> Health and safety department report on site Interviews with occupational therapy and physiotherapy staff
Relevant local factors	<ul style="list-style-type: none"> Garden is completely visible from main building and in full view of the staff inside 	<ul style="list-style-type: none"> Sightlines and staff rotas have all been checked
Options and their costs	<ul style="list-style-type: none"> Continue to allow free access for all who are physically mobile enough Cordon off part of the garden for those who are most frail to use Stop access completely for the most frail Financial costs of any action will be low 	<ul style="list-style-type: none"> No new information – pros and cons to be discussed and weighed up
Pros and cons	<ul style="list-style-type: none"> Sectioning off garden may have negative impacts for other users Removing access will have major dis-benefits for health of key patient group Maintaining free access will help the occupational therapy team continue to make full and accurate assessments of patients' capabilities 	
Precedents / comparisons	<ul style="list-style-type: none"> The Foundation Trust has other sites where this type of free access has worked successfully for this patient group 	<ul style="list-style-type: none"> Trust management
Risk-benefit judgement	<ul style="list-style-type: none"> In general benefits greatly outweigh risks; however, the risks need to be managed Ensure all staff are aware of access regime and the need to be aware of patients' movements Most vulnerable patients to be identified and staff to be made aware of these as they will be monitored more closely than others 	
Implementing judgement locally	<ul style="list-style-type: none"> Consider publicising the decision within Trust newsletter Make policy clear to all staff and to families of patients 	<ul style="list-style-type: none"> Support will be needed from the Trust

Notes and design ideas





The guidance set out in this Practice Guide represents a step forward in our thinking about the benefits of the outdoors for health and well-being. It aims to inspire everyone involved with outdoor spaces in healthcare settings to think how they could be used for therapeutic purposes. Focusing on outdoor spaces across the NHS estate, the guidance is relevant to the full range of facilities, from the largest hospital to the smallest health centre. It also has a wider application wherever health and well-being is important, for example in places such as care homes and special schools. The Guide has been designed to be accessible to a non-technical audience, and will be of interest to those engaged with policy, and *everyone* interested in improving patient care – whether they deal directly with patients, or focus on grounds management. It will act as a good introduction for those new to the field, but many professionals already working in ‘therapeutic landscapes’ will also find it of interest.



Forestry Commission

231 Corstorphine Road
Edinburgh
EH12 7AT

£13.50

www.forestry.gov.uk